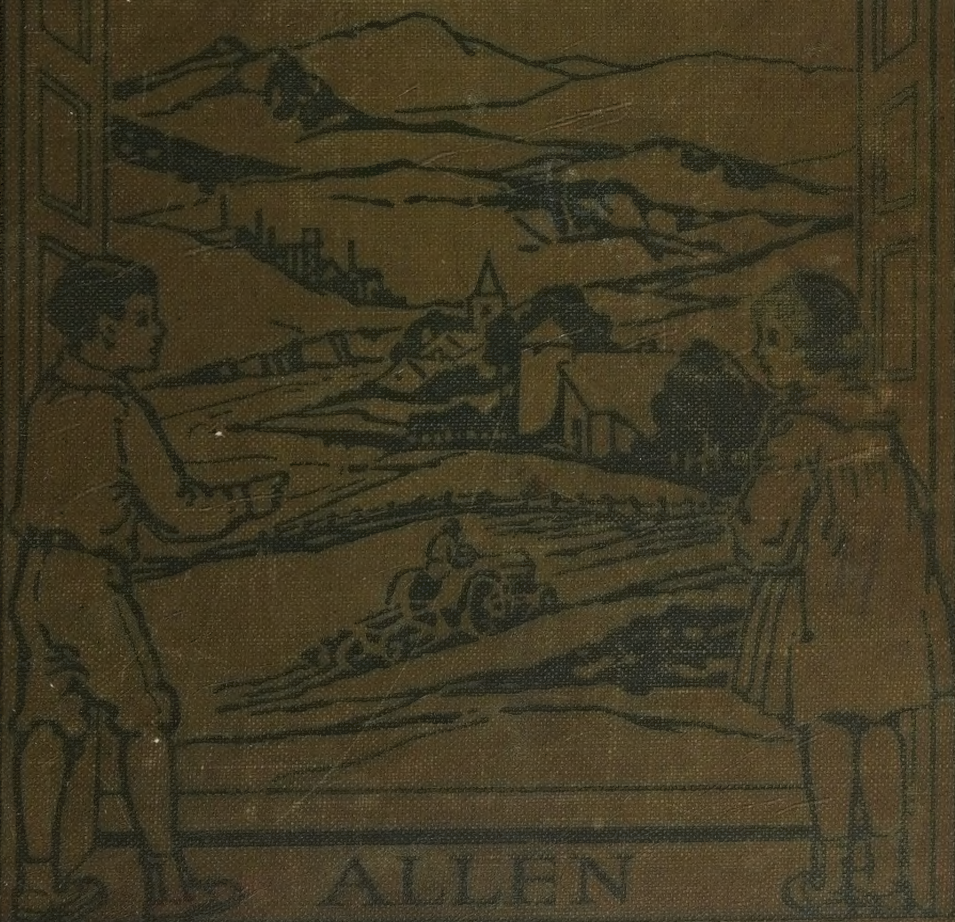
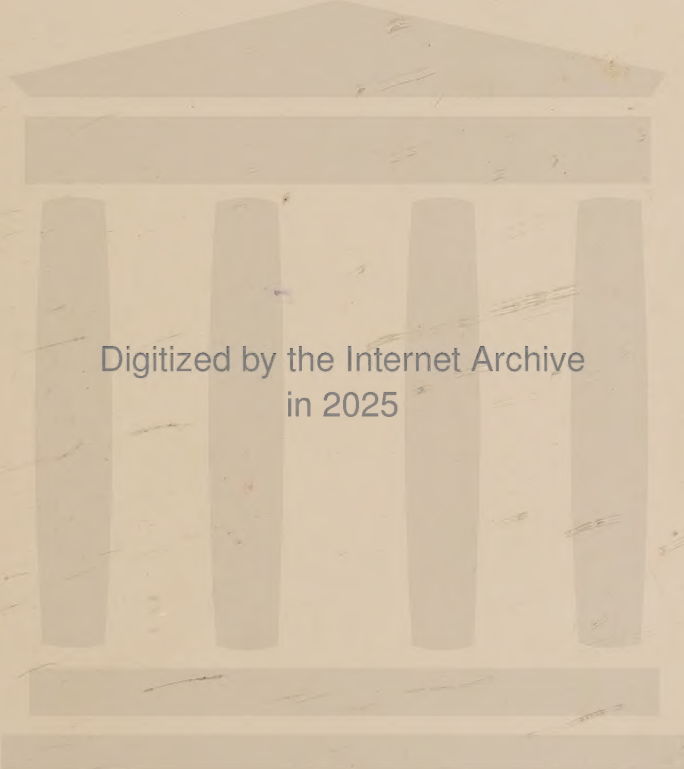


HOW AND WHERE WE LIVE

AN OPEN DOOR TO GEOGRAPHY



ALLEN



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A BIT OF FARM LIFE

HOW AND WHERE WE LIVE

AN OPEN DOOR TO GEOGRAPHY

BY

NELLIE B. ALLEN



GINN AND COMPANY

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PREFACE

The author bases the contents of this book on the pedagogical truth that children acquire new knowledge through ideas gained in everyday experiences and activities. Throughout its pages the child's experiences, desires, and needs are used for the acquisition of new knowledge. Home geography is everywhere made the foundation for foreign geography.

The chapters are planned for the "open book" method. During the recitation period the children may read the story with the teacher, answer the questions, discuss the facts, work out the problems, and attack the projects. The form in which the lessons are written is best adapted to the socialized recitation, and the work can be carried out by this method with the greatest benefit to the children. Suggestions for motivating the work are scattered throughout the pages.

To prepare the child's mind for the new information in the stories, questions are given and activities suggested at the beginning of the chapters. These should be discussed before the lesson is read. Some of the suggestions at the ends of the chapters may be talked over in class. Others may serve as seat work. Still others suggest outside activities. All new words should be used by the

children until they become a part of their vocabularies. The teacher will find the pronunciation of difficult words given as a part of the Index in the back of the book. The children should be taught from the beginning to use correct pronunciations.

Picture study is emphasized throughout. By the study of the illustrations and the legends beneath them the children can learn a great deal. Information gained through picture study is usually clearer and more permanent than that derived from the printed word.

Many things are suggested for the children to do. The work of collecting material, making charts, solving problems, and carrying out projects is more valuable than reading and talking. It is better not to keep the charts and other material from year to year. Their value to the pupils lies in the work of assembling them.

NELLIE B. ALLEN

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HOW AND WHERE WE LIVE

I. HOME LIFE AND NEEDS

LIFE IN OLDEN DAYS

Many years ago people lived very differently from the way we live today. They had no large cities with big buildings, fine stores, and busy mills and factories. They had no electric cars, and no automobiles to carry them long distances in a short time. They could not go to stores and buy much of their food all prepared and their clothes all ready to wear as we can do.

Most of the people in those days lived on farms. They owned sheep and made cloth from their wool. Some of them raised flax and wove the fiber into strong linen cloth. They kept hogs, which they killed for pork, bacon, ham, and lard. Their hens gave them eggs and their cows gave them milk and butter. They had gardens where they raised vegetables, and orchards of fruit trees.

They raised wheat and corn and carried the grain on horseback to the little mill by the brookside. The swift water turned the mill wheel, and



AN OLD-FASHIONED FIREPLACE

In what ways do you think that our stoves and furnaces are better than the fireplaces which people used in old times for heating and cooking?

this moved the heavy stones in the mill which ground the wheat and corn into flour and meal. They paid the miller for his work by giving him some grain instead of money.

These people who lived long ago had no stoves in their houses. They used fireplaces such as you see in the picture. They cut down the trees in the forest and sawed and split the wood to burn in the fireplaces.

When a new house was to be built, the men felled the trees, hewed out the beams and planks, and helped one another to put up the framework. They hammered out their iron nails and the hinges for their doors. They shaped the shoes for their horses and oxen. They lived very comfortably without many things which seem necessary to us. They made for themselves most of the things which they needed for food, clothing, and shelter.

If you lived on a lonely island far, far away from other people as Robinson Crusoe did, what things would your father and mother work the hardest to get for you?

THE CHIEF NEEDS OF PEOPLE

What does your father do to earn money to buy your food and clothes? What do some of your neighbors do to earn money for these things? What foods do you buy in stores? What do you call the stores where they are sold? Of what kinds of cloth are your clothes made? In what kinds of stores do you buy clothing?

Of what are the homes on your street made? What other kinds of houses are there in your town?

All over the world people are working to get food and clothing, and homes to shelter them. Ahtitah's father in the cold Northland gives her the fat meat of the whale or seal to eat. This food helps to keep her warm. Our neighbors in the hot lands like bananas, dates from the palm trees, and other fruits. In these hot countries the people wear very little clothing, while Ahtitah dresses in furs.

We live where the weather is hot for some months and cool or cold the rest of the year. We eat more meat and other hearty food in cold weather and more fruit and vegetables in hot weather. We wear warm clothes in winter and thin ones in summer. Houses in cold lands are built so that Jack Frost cannot get in. In hot countries people do not need furnaces and stoves.



A MOTHER BIRD FEEDING HER YOUNG

Animals as well as people work to get food and to build homes. You have seen birds building their nests and hunting for worms and seeds to eat. Pussy likes to hunt for mice. Some animals make their homes in holes in the ground. Others live in trees and caves. Some live under the water. What animals live in such places?

THE WORK OF THE FARMER

Have you ever seen farmers plowing and planting? At what time of the year do they do this work? Have you ever watched them gathering their crops? When do they do this?

What do farmers raise and bring in to your city to sell? What does your mother buy that farmers in distant lands have raised? Make a list of these things. See who will get the longest list.

Make a little farm on the table in your schoolroom. Make the farmer's house and barn of cardboard. Cut out from paper his cows and horses. With some dirt make a field with furrows in it. Put a paper plow in a furrow. Can you find some green moss for the farmer's field of grain? What other things can you make for this farm?

Farmers are the most important workers in the world. What should we do without them? They give us our bread and meat, our fruits and vegetables, and our milk, butter, cheese, and eggs.

In the springtime the farmers plow their land and plant their crops. In warm lands they plant their cotton and sugar cane and rice. In cooler countries they sow their wheat and oats and plant their corn.

Some farmers use great machines which open the furrows, drop the seeds, and cover them.

Others who work on smaller farms plant all their crops by hand. This takes much longer. In which of these two ways have you seen farmers at work?



THE FARMER PLOWING HIS FIELD

In what season do you think this picture may have been taken? What will the farmer do when he has finished his plowing?

In the summer and autumn the farmers harvest their crops. They mow the hay and get it into the barn, dig the potatoes and gather the other vegetables, reap the grain, and pick the apples. Have you ever seen farmers doing these things?

Should you like to live in the country on a farm? You could see the blue sky and enjoy the fresh air. You could watch the raindrops give the



DRIVING HOME THE COWS

Where have these cows been all day? Where are they going now?
What work must the farmer do after the cows are in the barn?

thirsty fields a drink. You could weed the garden and drive the cows to pasture. You could help to make things live and grow and blossom and fruit. Isn't this a splendid way to live?

THE SEEDS WE EAT

What grains or cereals do you eat for breakfast? What do you eat that is made of rice? of corn? of wheat? of oats? What do you call the stores where your mother buys her meal and flour? How many stores do you know which sell bread? What is bread made of? What grains do the farmers raise in the state where you live?

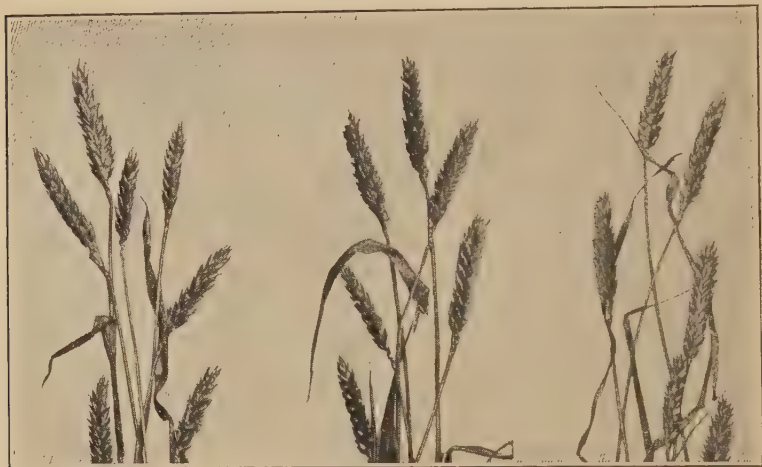
Did you ever think how many different kinds of seeds we eat? Rice pudding is made of the seeds of the rice plant. Many people in the world eat a great deal of rice. Later, when you are reading the stories of our world neighbors, you will hear about some of these people who like rice so well.

Oatmeal is made from the seeds of the oat plant. Do you eat oatmeal for breakfast? Perhaps you have seen a horse eating its dinner of oats. How it enjoys them! It eats all there are in the bag or manger and then looks around for more.

Dark bread is made from rye seeds ground into meal. The flour for white bread and graham bread is made from the crushed seeds of wheat. Cattle and hogs and hens like corn and the meal made from it even better than people do.

We eat more wheat seeds than any other kind.

Think of the millions of bushels of wheat it must take to make the flour for our bread! How big the wheat farms must be! They cover many miles in the central and western parts of our country.



STALKS OF WHEAT

Flour is made from the seeds of the wheat plant. The seeds are in the heads of the wheat

In places we can see nothing but the fields of yellow grain and the blue sky above. It takes many men to prepare the ground and plant the wheat on such large farms. Shouldn't you like to watch them planting their crops in the spring?

The farmers use great plows and harrows drawn by several horses. These machines turn up the

fresh soil, grind it fine, and smooth it off. Then the men go over the field again with machines that drop the little wheat seeds and cover them.



PLOWING WITH A TRACTOR

This man is using a tractor to pull his plow. The tractor is run by gasoline much as your automobile is. Compare this plow with the one in the picture on page 7

Sometimes on large farms the machines are drawn by tractors instead of horses. What is a tractor?

The little seeds lie in their dark beds until the rains and the warm sunshine awaken them. Then each seed sends up a green shoot. These grow all

summer until they are nearly as tall as you are. Then the little seeds appear in the heads of the grain. The heads grow heavy and nod to and fro, and the stalks begin to turn yellow. Then the farmer knows that it is time to cut his grain.

Some of the harvesting machines are wonderful. As they rumble over the field they cut the ripened grain, thresh out the little seeds, and put them into bags.

Now the little wheat seeds take a long journey. First they are carried to the railroad and loaded on a long freight train. Puff! puff! goes the engine, and off starts the train. After some hours the train pulls into a great city and stops with a jerk and a jar. "What is going to happen now?" think the little seeds. Almost before they can think again, they are drawn into a great tube and sucked up and up and up to the very top of a tall building called an elevator.

No sooner are the seeds up than they begin to come down again. Faster and faster they slide down through a long chute into a large bin. One day the bin is opened, and down they slide again into freight cars. "Here we are off for another journey," they cry, as the train rattles away.

The train stops beside some great buildings. Now the little seeds move so swiftly that they can hardly get breath to tell us about it. Whew! First come strong blasts of air which blow away the dirt and straw. Then the seeds are rubbed and brushed and blown again until they feel as clean as you do when you have just taken a bath. Away they start to the top of the building for a long slide downward. Ugh! Huge rollers catch them and grind them finer and still finer. After each grinding, the coarse yellow part, called bran, is separated from the finer, whiter part. On they go, sifting again and again through screens and cloth until finally, at the bottom of the great mill, a fine white powder runs out into bags. This is the flour all ready for your mother to make into a cake.

In what direction from you are the big wheat farms of which the story tells you? Point in this direction. How should you travel to get to them? How long should you be on the trip? Do the farmers near your home raise wheat? Imagine yourself to be a little wheat seed, and tell the class the story of your life from the time you were put in the ground until you came out of the oven in a nice brown loaf of bread.

OUR GREAT CORN CROP

Do you ever have corn bread or corn muffins for supper? What do you sometimes have for breakfast which is made from corn? Does your mother ever buy canned corn? Have you ever seen corn popping and snapping over a hot fire? Do you like cornstarch pudding?

The first white men who came to this country had never seen corn until they saw it here in the garden patches of the Indians. The early settlers learned from the Indians how to raise it and store it through the winter, and how to grind it into meal between two flat stones. Sometimes, when other food was scarce, corn kept them from starving.

Now the farmers in every state raise corn. The biggest cornfields are on the plains in the central part of our country where the sun shines hot through the long summer days and Nature sends plenty of rain. Corn will not do well as far north as wheat, for it needs hotter days and a longer summer.

More corn is raised on one of our big farms than in all the garden patches of the Indians. Corn is our greatest crop, and we raise more than all the other countries of the world put together.

What do you suppose is done with all these millions of bushels of corn which we raise on our farms? If cattle, hogs, horses, mules, and hens could talk, they would tell you what they like to do with corn. They like to eat it and the meal which is made from it. The greatest number of hogs are raised in the part of our country where the largest cornfields are found.

Have you ever fed any animals with corn or meal? Their manners are not very good, for they eat it as fast as they can. They like the green stalks and the ears filled with juicy kernels. Some farmers chop up the tall green stalks by machinery and store them in big bins called silos. On page 32 there is a picture of a tall, round silo filled with corn. This makes a good winter food for cattle. Corn and meal make animals fat. Cows that eat this food give rich milk.

Let me tell you about some of the corn family. There is the sweet corn which you like to eat both on the cob and canned. You all like to pop corn, and you have heard it sputter and snap when the fire is hot. Which do you like the best, "cracker-jack," corn balls, or hot, buttered pop corn?

Field corn has many uses. Breakfast foods are

made from field corn. The corn for our bread and muffins, the cornstarch for our puddings, and



A BOY'S CORNFIELD

What a fine field of corn this boy has raised! Perhaps he is trying to win the prize for the best crop of corn in his state. See how tall the stalk is which he is measuring with his hoe. (Courtesy of the United States Department of Agriculture)

the starch for stiffening our clothes all come from field corn. Does your mother ever buy corn sirup for you to eat on bread and griddlecakes?

Did you know that there is a great deal of oil in the kernels of corn? Men have invented machines which press the kernels and squeeze out the oil. Corn oil is used in many ways. Perhaps your mother uses the oil made from corn in her pie crusts and her salad dressings. Ask her about it at supper tonight.

In some states many boys belong to corn clubs. Each boy in a club tries to raise more corn on a certain amount of land than any other boy. The government gives a prize to the winner. The fathers of the boys do not like to be beaten, so they try to make their land yield more corn. In these and other ways we have made our corn crop larger than it used to be.

Are there any corn clubs where you live?

Try to make some corn meal as the Indians did. How is it different from the meal which you buy in the store? Why is it different?

What animals live near you? Give them a few kernels of corn or a little corn meal. See if they act as if they wanted more.

Do you think of any fats or oils which we use that are made from fruits or seeds? What fat made from animals is useful?

ORANGES AND BANANAS

What kinds of fruit can you buy in your home town? Which are raised by farmers near you? Which grow in hot countries? Which come in barrels? in boxes? in baskets? Which ones are dried? Which are canned? In what kinds of stores can you buy fruit? What kinds of fresh fruits have you seen in winter? Where did they come from?

That big yellow orange on the table is going to tell us a story. Listen, and you will hear about its life.

I am a big, round, juicy, yellow orange. I came from a beautiful grove in California. This state is in the part of our country nearest the Pacific Ocean. Many of my cousins live in the South, in the state of Florida.

In my grove there are hundreds of trees. They have glossy green leaves and waxy white blossoms. In blossoming time the air is very sweet. I was born just after the blossoms faded. At first I looked like a little green marble, but I soon grew big and yellow. There were a great many oranges on my tree. We were so heavy that some of the large branches hung low near the ground.



© Burgett Brothers

AN ORANGE TREE LOADED WITH FRUIT

Can you imagine how pretty an orange tree is with its glossy green leaves and its yellow balls of fruit?

One day little Alice and her father were walking through the grove and looking at the trees.

"See how yellow the oranges are!" said Alice.

"Yes," said her father, "they are large and fine. We must begin picking them tomorrow."

The next day a man picked me and many of my brothers and sisters from our tree. He carried us to a building where there were thousands of other oranges. Alice and her mother and other women and girls were working here. After I had been washed, Alice picked me up, wrapped me carefully in paper, and put me in a box. When the box was full and the cover nailed on, a man put it with other boxes on a big truck and took us to the railroad station.

There were so many of us at the station that we filled many cars. Then we started on a long journey to a large city. Here we rode in trucks to a big market where there were all sorts of fruits and vegetables. Many men were buying and selling. The man who bought the box that I was in put it on his truck and brought me to your city. And here I am, round and yellow and juicy and sweet. Doesn't it make your mouth water to think of eating me?

The banana could tell us just as interesting a story as the orange. I will tell you its story, and then you can imagine that you are a banana and tell the class about your life.

The people in the United States eat millions



A BANANA PLANT WITH ITS BUNCH OF BANANAS

Notice how the bananas grow. They look upside down. A banana plant bears only one bunch of fruit. (Courtesy of the United States Department of Agriculture)

of bananas every year. You have seen the big bunches hanging in the stores and being carried through the streets. Some of them are green, but they soon ripen and turn yellow.

Bananas grow in hot countries. They go on long journeys before they reach our big cities. They are picked when green, for if they ripened on the plants, they would spoil before they reach us.

Each banana plant bears one bunch of fruit. While this bunch is growing, a new shoot springs up. The next season this bears its one bunch of bananas and then dies, and another plant grows up from the roots.

In the countries south of us there are large banana plantations. When a ship is to call at the seaport, workmen cut the big bunches and send them by rail down to the coast. They are put into rooms on the ship which are just cool enough to keep the fruit from ripening. Then they are brought to our cities.

Do you like bananas as well as oranges?

In what direction from your home are the orange groves of California? of Florida? Point toward them. How long would it take you to go to California? Should you travel by land or by water?

Point toward the hot countries where our bananas come from.

Cut out from paper a banana and an orange. If you have time, cut out other fruits.

OTHER FRUITS WHICH WE LIKE

Name all the fruits which you know that come from warm lands. What ones grow where the weather is cold part of the year? What fruits do you eat that have been dried? Do you think that they come from a place where there is much or little rain?

Does your father have any apple trees? Apples grow in most parts of our country. Some are red and some are yellow. Some are sweet and some are sour. Some will keep through the winter, while others must be eaten soon after they ripen. What kinds of apples have you eaten?

Each year we raise millions of barrels of apples. We sell some of them to people in other countries, but we use many of them ourselves. What does your mother make of apples? When do you think that an apple tree is more beautiful, in the spring, when it is covered with pink-and-white blossoms, or in the autumn, when the balls of red and yellow fruit make the branches bend low?

Have you ever seen a peach orchard in the spring when the trees are full of pink blossoms? When the blossoms fall, the fruit begins to form. Sometimes Jack Frost comes around and nips the tender

fruit. Then we do not have so many peaches in the summer to eat and to can.

At picking time the people who raise peaches are very busy in their orchards. The fruit must be picked, packed, and sent away to the cities just as quickly as possible. Fast freight trains and motor trucks carry the fruit to the city markets where it is sold. When you see peaches for sale in the markets and stores, notice how nicely they are packed in the baskets. Do you think you could pack them as well?

Which kind of grapes do you like best, the dark-purple ones, the white ones, or the little green ones? Perhaps you like grapes better after they are dried. Then we call them raisins. What have you eaten that had raisins in it?

Grapes grow in large vineyards. The vines are cut back until they are no taller than you are, and tied to stakes. Each little vine bears beautiful clusters of fruit. When the grapes which are to be made into raisins are picked, they are laid in shallow boxes and put out in the sunshine to dry. Most of our raisins come from the state of California. Little rain falls in California at the time of the year when the grapes are drying in the

fields. In the hot, dry air they soon change into sweet brown raisins.

Other dried fruits come from California. Do you like prunes and apricots? The picture on



APRICOTS DRYING IN THE SUNSHINE

© Ewing Galloway

In what state do you think this picture was taken? Why is so much fruit dried here?

this page shows you boxes of apricots drying in the sunshine. It would take you a long time to count the hundreds of carloads of these fruits which are sent out of this state every year.

WHAT WE GET FROM CATTLE

What do you call the stores where meat is sold? What kind of meat did you have for dinner? Name the different kinds of meat that you have eaten. What canned meats does your mother buy? Where do the storekeepers get the meat they sell? How does it get to your city? Where does the milk that you drink come from? the butter and cheese that you eat?

Most of the meat that we eat comes from animals which live on great farms called ranches. These are in the central and western parts of our country. Many cattle and sheep live on ranches and farms in other countries. Sometimes we buy meat from the people in these lands. It has to be brought on long voyages over the ocean.

Should you like to visit a big ranch where thousands of cattle live? Your nearest neighbor might be some miles away. You would like the long rides on your pony over the wide plains.

Ranchmen have many horses. The cowboys often ride long distances after the cattle. Cowboys are fine riders and can do wonderful things on horseback. Sometimes many of them meet and have tests to see who can ride the wildest horses.

The cowboys see that the cattle find grass to eat and water to drink. They care for them in all



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A COWBOY ON A BUCKING HORSE

Should you like to watch a contest among the cowboys to see who can ride the wildest horse? If this rider can stay on this horse, I think he will win the prize. Don't you think so?

kinds of weather. The cattle from many ranches wander over the plains. The cowboys round them up and sort out those of the different owners.

Many calves have been born since the last

round-up, and these must be marked with the brand, or sign, of the owner. Then he can always tell what animals belong to him. The cowboys do the branding with a hot iron, which singes off the hair. Notice some horses and cows and see if any of them have brands on their hips. After the branding the animals go back to feed on the grassy plains and hills.

The cowboys separate from the rest of the herd the cattle which are to be sent to market. These are rounded up near the railroad and driven one by one up narrow runways into freight cars. Then they have a long ride to some large city.

Here they live in pens called stockyards until they are killed. In Chicago and other cities the stockyards cover miles of ground. They are noisy, dusty places. Drovers are shouting, cattle are lowing, sheep are bleating, and hogs are grunting and squealing. You will find a picture of a part of the Chicago stockyards on page 250.

Cattle give us many useful things. You will read about some of them in the next story. Many of our combs and buttons and hairpins and toothbrush handles are made from their horns and bones. Cheap cloth is made from their hairy coats. The

hoofs and horns and the marrow which fills the hollow bones make good glue. Some of the blood and other parts of their bodies are made into



CATTLE FEEDING ON A RANCH

There are many ranches in our great West where thousands of cattle feed on the coarse brown grass which grows in this part of our country. The next story tells you why these cattle are more useful for their hides and flesh than for the milk which they give

fertilizer. The farmer buys this to spread on his land. It makes his plants grow well and yield good crops.

The hides, or skins, of cattle are made into leather. In our shoe factories we use not only cattle hides but also the skins of goats and sheep and other animals. Many of these come from animals which live in our own country. Many others are brought over the ocean from ranches and farms in lands far away.

You will read in later chapters about some boys and girls who live on farms in other countries where cattle and sheep are raised. Perhaps your shoes are made of leather manufactured from the hides and skins of the animals on these farms. It takes immense amounts of leather for the millions of pairs of shoes which are made every year in our shoe factories.

Perhaps some man in the shoe store or in the shop where you have your shoes repaired can tell you what kind of leather your shoes are made of and where the skins came from.

Count the many useful things which we get from cattle. Can you spell the names of all these things? What is leather? How many different things can you think of which are made of leather?

SOME OTHER ANIMAL PRODUCTS

How much milk do you drink each day? How does it get to your house or to the store where you buy it? What animal gives you this good food? Of what is butter made? Did you ever see anyone making butter? Do you know any other food besides butter which is made from milk?

The cattle that feed on the dry brown grass on our Western ranches do not give much milk. To give good rich milk, cows must have plenty of green grass and clover and grain and meal. Some cows are fed on corn meal, and some are given meal made from cotton seeds. In winter, when there is no green grass in the fields, the farmer gives his cows hay and the juicy corn which was chopped up in the fall and put into the silo.

Cows fed on these good foods give much milk. People make butter and cheese from it. These three things—milk, butter, and cheese—are called dairy products.

On the dairy farms there are big barns for the cows. The barns and the cows must be kept clean. The men who care for the cows must be clean, too.

The cows are milked night and morning. On some farms the workmen do this. On others the

cows are milked by machines run by gasoline or by electricity. This is a quicker way of milking.

Some dairy farms are near large cities. The



SCENE ON A DAIRY FARM

The cattle on this dairy farm are fed with grain and hay and green grass in order that they may give us a good deal of milk. Those tall, round silos are filled with chopped corn. How good it will taste to the cows in the winter when there is no green grass. (Courtesy of

Doubleday, Page & Company)

farmer sends his milk to the city in wagons or trucks. Other farms are farther away in the country, and the milk goes to the city by train.

Does a milk train go through your town carrying milk to the babies who live in some large city?

The milk is put into bottles by machinery. The machines fill the bottles, put on the paper caps, and push the bottles along to the men who put them in boxes. Then they are ready to be taken around the city to the customers.

Some farmers who sell cream use a separator. This is a machine which separates the cream from the milk. The cream flows out of one spout, and the milk out of another. Then the farmer can sell the cream. He may use the skim milk to feed his chickens and pigs.

The farmer may sell his cream in bottles or he may send it to a creamery to be made into butter. In a creamery the cream is put in big churns which are run by machinery. The churning separates the fatty part from the rest of the cream. It is worked over to get all the milk out of it. Then it is salted and put into large tubs or into molds.

Where do you suppose the butter that you spread on your bread this morning was made? See if you can find out.

Some of the milk from dairy farms is made into cheese. We make a great deal of cheese in our

country, but we also buy much fine cheese from other countries.

Which of the three dairy products that you have been reading about do you like the best?



BOTTLING MILK

Does the milk that you use come in bottles? Perhaps the bottles were filled by a machine in a place like this. Ask your milkman or grocer about it

I wonder how many of you had a good fresh egg for your breakfast this morning. Most farmers keep some hens and sell the eggs which they get. In the spring they set a mother hen on some eggs

to keep them warm. In about three weeks the baby chicks come out of the eggs. Did you ever hold a baby chick in your hand? The soft, fluffy little thing is very cunning.

There are many large poultry farms in our country where there are thousands of hens. Instead of letting a hen sit on a few eggs, the poultry farmer raises his chickens in an incubator. This is a kind of box which holds a great many eggs and keeps them warm as a hen would.

After the little chickens are hatched, the farmer keeps them in a "brooder," where they are as warm as if the mother hen tucked them under her feathers.

What things do you eat that have eggs in them? Can you find out where the eggs that your mother uses come from? How do people keep eggs a long time without spoiling? Have you ever fed any hens and chickens? What do they like to eat? What other kinds of poultry have you seen?

THE SHEPHERD AND HIS FLOCK

What kind of meat do we get from sheep and lambs? What do we wear which comes from sheep? Do any sheep live near your home? Why do farmers who own many cattle and sheep have large farms? Some countries are so crowded with people and cities that there is no room for large farms. How do people in such lands get their meat, milk, butter, and cheese? Do we live in such a country or do we have room for large farms?

Sheep live on ranches as cattle do. They feed far away from the ranch house for weeks at a time. Each flock may have hundreds or thousands of sheep in it. It is cared for by a shepherd and his dog. Each shepherd sees that his flock has plenty of grass and water. He drives away any wild animal which would like to catch a sheep or a tender lamb for its dinner. At night he gathers the flock together in a safe place.

Without his dog the shepherd could not do all these things. The dog can drive the sheep better than its master can. Its barking wakes the shepherd at night and warns him that wolves or mountain lions are near.

When the shepherd is out with the sheep, he may live in a tent. Sometimes he has a big covered

wagon for his home. When baby lambs are sick or cold, the shepherd often puts them into the wagon and cares for them there until they are stronger.



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THE SHEPHERD AND HIS HELPER

A shepherd loves his horse and dog and sheep. They are his good friends. He loves, too, the bright stars, the blue sky, the open plain, the distant mountains, and the clear, crisp air. Should you like to camp out with him sometime?

A CUP OF COCOA

What did you drink this morning with your breakfast? What did you drink with your supper last night? What do your father and mother drink with their meals? Tea and coffee are not so good for boys and girls as milk and cocoa. How many things can you think of that cocoa and chocolate are used for?

We can sail to the cocoa plantations in South America on either the Atlantic Ocean or the Pacific Ocean. In what direction from you is each of these oceans? Which one is nearer to you? Point toward it. How long would it take you to reach it?

Pack your thin clothes and prepare for a long trip. We are going to the hot countries south of us to visit a cocoa plantation. We shall sail southward over the great ocean to South America. There are many cocoa plantations on the lowlands near the rivers, and we can sail in small boats almost or quite to them.

Here we are at the plantation. See the big pods on the trees! They hang close to the trunks and branches. The men cut the pods from the trees with knives fastened to the ends of long poles.

Let us break open one of the pods. It has thirty or forty beans in it, each about the size of an



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OPENING COCOA PODS

See the pile of cocoa pods. The workers are cutting them open and taking out the cocoa beans. What is done to the beans after they are taken from the pods?

almond. The beans are packed so closely that if you take them out you can never get them all in again.

The workmen open the pods, take out the beans, and dry them in the sun. Millions of bags of these

dried cocoa beans come from different lands to the cocoa factories in the United States.

Let us visit one of these factories. How good the air smells! It makes us think of chocolate cake and candy and all sorts of good things.

The beans are first cleaned and then roasted in the biggest ovens you ever saw. Then they are crushed, and the shells and dust blown away. Now the crushed kernels are put into one end of a great machine. Here they are ground finer and finer until the chocolate flows out of the other end like a stream of cold molasses. This runs into molds and hardens. This is cooking chocolate. Have you ever bought a cake of it for your mother to use in her cooking?

To make the sweet chocolate which you like to eat, sugar is added before the chocolate hardens. Cocoa beans contain a great deal of fat. When this is taken out, a fine dry powder is left. This is the cocoa which you buy of your grocer in cans. How good a cup of hot cocoa tastes with bread and butter at supper time!

Can you draw a picture of a cup and saucer and a can of cocoa? There are some hard words in this lesson. Try to learn to spell them all.

MOTHER'S CUP OF TEA

Soften a little tea in water and unroll the leaves. What shape are they? Cut from paper some leaves of the same shape.

Here is a story to tell your mother while she is drinking her cup of tea.

There are many million people living in China and Japan, and you will read more about them in other stories. In both of these countries there are many farms where the tea plant is raised. The Chinese and Japanese used tea for many years before people in other countries had ever heard of it. They drink a great deal of tea, and they send much more over the oceans to people in other parts of the world.

Tea plants look a little like rosebushes, and long rows of them cover the hillsides in China, Japan, and in another country called India. In the spring, when the leaves are young and tender, the people are very busy. Then Wang and his mother and brothers and sisters spend long days in the fields picking the tea leaves.

When their baskets are full, they carry them down to the factory in the valley where Wang's

father works. Here the leaves are dried and rolled and packed in boxes. These boxes are carried in trains, in boats on the rivers, and on the backs of men to the shipping ports on the coast. From here they are sent to countries far over the ocean.

When you see your mother drinking her cup of tea, perhaps you will think of Wang picking the tea leaves, of his father in the tea factory, of the men who carried the tea to the coast and loaded it on the ships, of the sailors who brought it across the ocean, of the men who unloaded the vessels and stored the tea in great buildings, of those who put it on motor trucks or trains, of the drivers who brought it to your city, and of the man who keeps the store where you bought it.

Count the number of people who have helped your mother get her cup of tea. See if you can find out the names of different kinds of tea which your grocer sells in his store.



JAPANESE TEA PICKERS

WHERE WE GET OUR COFFEE

What do we drink that animals give us? What do we drink that comes from the clouds? How does it get there? What do we drink which is made from beans that grow in a large pod? What drink is made from the leaves of a plant?

Much of our coffee comes from Brazil. This is a country larger than the United States. It lies in the warm part of the earth to the south of us. Point in that direction.

Coffee trees are very pretty when they are covered with the little red balls of fruit. You might think that they were cherries, for they look something like them.

Safely hidden inside the soft pulp are two small beans or seeds. They lie with their flat sides close together like the halves of a peanut. Our coffee is made from these beans.

Should you like to have a race with the boys and girls on a coffee plantation to see who could pick the most berries in a day? Think how many pickers there must be to gather all the berries from the millions of coffee trees which grow in the warm part of the earth.

Perhaps you would like better to ride on the

big wagons filled with berries and see what becomes of them. The soft pulp is crushed and washed away. Then the beans are spread out on the smooth floor of a big yard to dry. Workmen with long rakes turn the beans over from time to time and cover them if there is danger of rain.

The coffee beans are covered with a hard, tough skin, or shell. After they have been dried they are run between heavy rollers, which break the shells into small bits. Big fans blow away the pieces.

Many coffee plantations are far away from a railroad or a seaport. The beans are put into bags and carried on the backs of donkeys to a railroad station or a river. From here they are taken to a city on the seacoast where ships are waiting to bring the coffee beans to our country.

Even now the beans do not look like those which the grocer puts into his grinder. They are much lighter in color. They must be roasted to make them brown and give them the taste which your mother likes.

Our country's coffeepot holds about half the coffee raised on all the great plantations of the world. It all has to be brought from other lands, for we do not raise any coffee here. What do you



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ON A COFFEE PLANTATION

See how thick the little berries are on this young coffee tree. Think how many workers it must take to supply the world with coffee

suppose we send over the oceans to other countries in return for all the coffee which they send us?

See if your grocer can tell you where the coffee comes from which he sells in his store.

WHAT FILLS OUR SUGAR BOWL

What do you like that is made of sugar? Name all the ways you can think of in which we use sugar. What kinds of sugar have you seen?

Should you like to live on a sugar plantation? You could play hide and seek under the long, rustling leaves, for sugar cane grows much taller than you are. A cane field looks much like a field of corn. The sugar is in the juice of the tall jointed stalks. The children in warm lands where sugar cane grows like to suck pieces of the stalks to get the sweet juice. It is as good as candy.

See the workmen cutting the stalks and trimming off the leaves. There go some big loads of stalks to the mills. Here heavy rollers crush and press them to squeeze out the juice. This is boiled down to get the sugar. The coarse yellow crystals which form are called raw sugar. Many things must be done to make it into fine white grains like those in your sugar bowl.

Some sugar is made from beets. You cannot tell from looks or taste whether the sugar on your table is cane sugar or beet sugar.

Sugar beets grow in cooler lands than the sugar

cane does. They are much larger and lighter in color than the beets we eat. In the mills they are cut up by machinery and put into warm water.



A FIELD OF SUGAR CANE

Courtesy of the United States Department of Agriculture

This soaks out the sugar. The sweetened water is boiled down to get the raw sugar. Then this is made into fine white grains.

Have you ever eaten maple sugar? This comes from the sap of the maple tree. When the sap

begins to flow in the spring, a little hole is bored in each tree trunk. This is called tapping the tree. The sap drips into a pail hung below the hole.



A FIELD OF SUGAR BEETS

Men collect the sap and carry it to the sugar-house. Here it is boiled down into sugar and sirup.

Ask your grocer how many kinds of sugar he keeps. Do you know what each kind is made from? What do you call the sugar that bees make? What kind of sugar do you like the best?

THE CLOTHES WE WEAR

Have you a cat or a dog? What are their coats made of? Do they wear the same coats in winter and summer? What kind of coats do canary birds wear? Did you ever see a canary changing its coat for a new one? How long did it take?

What is your winter coat made of? your dress? your sweater? your handkerchief? your stockings? your ribbons? What are the sheets on your bed made of? the cloth on your dining table?

Is there a mill in your city which makes cloth or yarn?

We have been reading about the many things which farmers give us to eat and drink. We depend on the farmer also for the materials for our clothes.

In cold lands people wear the skins of animals. In hot lands they wear few or no clothes. Some people make cloth from the fiber and bark of trees which grow near their homes.

Most of our summer clothes are made of cotton. Many of our winter clothes are made of wool because wool is warmer. We also use the furs of animals for winter clothing. We make the hides of cattle and the skins of sheep and goats into leather for our shoes and coats and gloves.

We use silk for many things we wear. The girls' ribbons and the boys' neckties are silk. What



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SOME SCHOOL CHILDREN IN SOUTHERN ASIA

You would know from the way these children are dressed that they live in a warm land. Compare their clothes with those of the three little Eskimo boys on the next page

else can you think of that is made of silk? In another story you will read about the little creature that gives us silk and of the curious way in which the raw silk thread is made.

Have you a linen dress or handkerchief? The cloth called linen is made from the fiber of the



© Ewing Galloway

THREE LITTLE ESKIMO BOYS IN ALASKA

These boys will be warm even if the weather is cold. They have on two suits of clothes. If you will look on page 180 you will find out how they put them on

flax plant. The flax fiber is very strong, and the cloth made from it wears a long time. People used to raise flax and make linen from its fiber long before they knew anything about cotton.

COTTON PLANTATIONS AND COTTON CLOTH

Unravel a piece of coarse cotton cloth. See if you can find the threads which run crosswise. Pull out some of the threads which run the other way. Can you see how the threads go over and under one another and so hold the cloth together?

Are most of our clothes made of cotton, wool, silk, or linen?

The cotton plant needs hot weather to make it grow well, so our cotton plantations are in the sunny South.

Cotton plants bear pretty flowers which are cream white at first and then change to yellow and red. When these drop off, a seed pod, or boll, forms where each blossom grew. The boll grows until it is larger than an English walnut. When it is ripe, it bursts open. "Oh," you say, "see the soft white stuff inside!" This soft white filling is the cotton fiber.

The picking season is a busy time on the cotton plantations. Into the fields come the pickers—men, women, and children—with their sacks and baskets. Walking back and forth between the rows of plants, they gather the fiber from the

open bolls. On large plantations they spend many days in the fields before the fiber is all picked.



PICKING COTTON IN THE SUNNY SOUTH

In the picture you can see how the pickers gather the cotton fiber from the opened bolls. What is done to the fiber after it is picked?

If you can get a handful of cotton fiber as it comes from the boll, try to pull it apart. Can you feel the little hard seeds in it? It is not easy to get them out. If you worked all day, you could pick out only a little pile of seeds from the fiber.

Many years ago all the seeds had to be picked from the cotton fiber by hand. One day a young man was visiting some friends on a Southern cotton plantation. His name was Eli Whitney. He liked to make things, and was always trying to invent new tools and machines. When he saw how long it took to pick the cotton seeds from the fiber, he set about making a machine to do this work. He succeeded in making a machine called the cotton gin, which would comb the seeds from the fiber. It did the work much faster than people could do it by hand.

When the cotton planters found that the cotton gin could comb the seeds from the fiber so quickly, they began to plant more cotton. Larger cotton gins were built; later, when machines for spinning and weaving had been invented, men built great factories where the fiber could be spun into thread and woven into cloth.

For many years the men who raised cotton did not know what to do with the seeds. They used some for planting and threw the rest away as waste. Today the cotton seeds are worth millions of dollars. This is because we have found out how to use them. We have learned that cotton seeds

contain a great deal of oil. This is pressed out and used in many ways. Some people use it in cooking, in salad dressing, and in place of butter. Do you ever use oleomargarine? This is made



A COTTON BOLL

The boll is really the seed pod of the cotton plant. The seeds are packed snugly in the soft white fiber in the boll

from cottonseed oil. Perhaps the sardines which you buy of your grocer are packed in this oil.

The brown hulls, or skins, which cover the little cotton seeds are used as a food for cattle. The crushed seeds are made into meal. Should you like to watch some cows eating their supper of cottonseed meal? It makes them grow fat.

Now let us go back and see what becomes of the cotton fiber after the seeds are taken out of it. In the mills machines comb out the tangled fibers until they lie straight and smooth. Other machines pull and twist the fibers into thread and yarn.

Have you ever woven strips of paper over and under and over and under into a pretty pattern? That is the way the great looms weave the yarn into cloth.

Long ago people used to weave the cloth for their dresses and suits by hand in their homes. Now such work is done in great mills. Which do you think is the better way? Why?

Ask your mother what the oils and fats which she uses in cooking are made from. Do you ever use olive oil? See if you can find out where it comes from.

Did you know that a great deal of oil is made from peanuts? Perhaps your grocer can tell you something about peanut oil and about coconut oil. Ask him about them.

SILK AND SILKWORMS

When school opens in the fall, catch some caterpillars and keep them under netting in the schoolroom. Watch them spin their cocoons. In the spring notice what kind of moth or butterfly comes out of the cocoon. Did you ever see any animal change its skin? Tell the class about it.

Did you know that your pretty ribbons and silk neckties are the gift of a kind of caterpillar? The Chinese and Japanese raise millions of these caterpillars, or silkworms. Often the boys and girls help to feed them with tender leaves from the mulberry tree.

When the caterpillar is full grown, it begins to spin a cocoon of fine silk thread. In about three days it is safely hidden inside. In the cocoon the silkworm changes into a moth just as caterpillars do.

The moth breaks the threads at one end of the cocoon and comes out into the light and air. Soon it lays its tiny eggs and dies. From the eggs new silkworms are hatched.

The three pictures on page 59 illustrate the life of the silkworm. In the upper picture you see the caterpillar eating a mulberry leaf. The

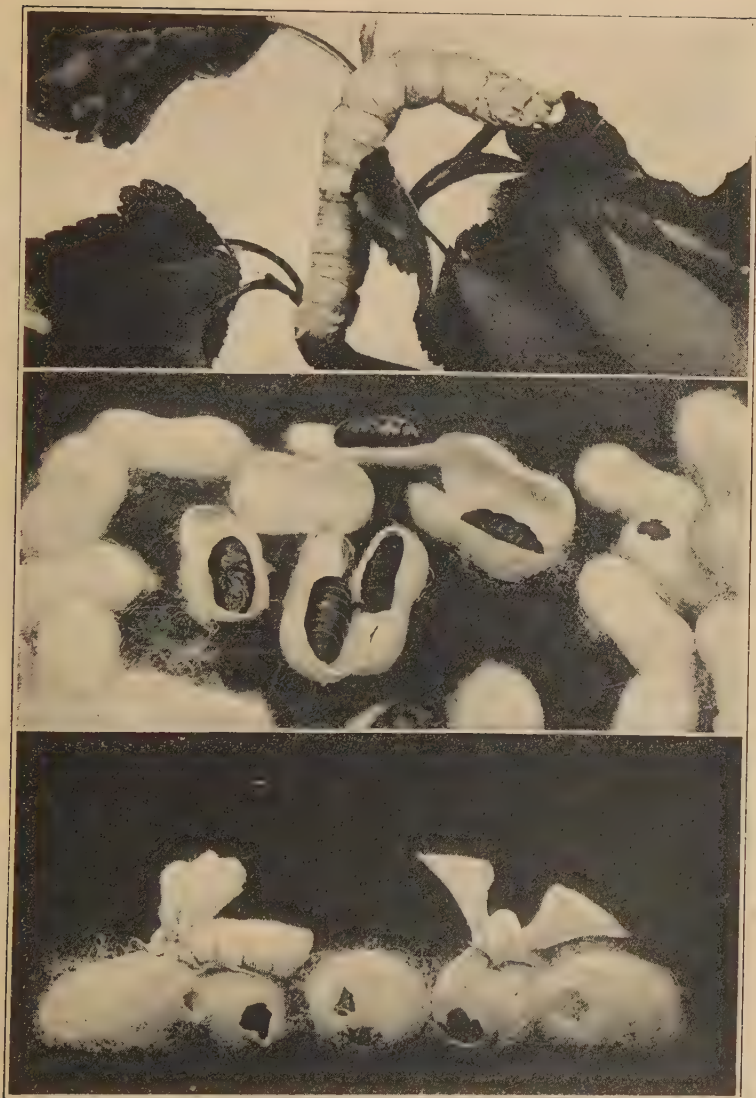
middle picture shows you the cocoons that it spins from fine silk thread which it manufactures inside its body. Some of the cocoons are cut open so that you can see the little hard chrysalis into which the caterpillar changes while in the cocoon.

The chrysalis changes into a moth. In the lower picture you see the moth and the hole which it has made in the cocoon in order to get out into the light and air.

People who raise silkworms for the silk thread which they spin put the cocoons into hot water to kill the little creatures inside. Then they unwind the thread from the cocoons. The women used to do all this work by hand in their homes. Now it is done by machines in large factories.

The long fibers which are unwound from the cocoons are twisted together and made into strong silk thread. This can be woven into cloth. How strange it seems that a little creature like a caterpillar gives us such a beautiful thing as silk!

We do not raise silkworms in the United States, but we buy from other countries a great deal of the silk which silkworms spin. We manufacture this into cloth and many other pretty things.



FROM SILKWORM TO MOTH

© Corticelli Silk Co.

OUR WOOLEN CLOTHES

If you lived in a warm country, what kind of cloth should you choose for your clothes? What should you want for clothes if you lived in a cold country? Name four things from which cloth is made.

Name some things which the farmer raises for clothing materials. If you were a farmer, what should you like best to raise on your farm?

Do you remember the story about the shepherd and his flock? What thick, warm coats the sheep had! In early summer the shepherds drive the sheep to the home ranch, where they leave their warm coats for their master's use.

The wool is sheared or clipped off with great shears. Sometimes the shears are worked by electricity. It takes only a few minutes to cut off the thick, soft coat. It lies in a heap on the floor as the sheep scampers away.

The wool from thousands of sheep is sent by train to cities where there are great factories. Some wool comes also from countries across the ocean. The wool is very dirty and greasy and must be washed in hot soapy water. Then it is brushed and combed until its fibers lie straight

and smooth. The soft wool fibers are drawn out finer and finer, twisted into thread and yarn, and woven into cloth very much as the cotton fiber is.



© Underwood & Underwood

SHEARING SHEEP IN THE PASTURE

What thick coats sheep have! See what a pile of wool these men have taken from the sheep they are shearing. What will be done with it?

Are you wearing today anything made of wool? Name some things which are made of wool. Have you ever cut out a sheep from stiff paper? Try to make one so that it will stand up.

FARMERS NEED GOOD SOIL

Bring into school some samples of the different kinds of soil that you can find. Look for some coarse sand. Notice how sharp the grains are. Rub two rocks together as hard as you can. Did any bits crumble off? This is one way in which soil is made.

Try to find some very dark soil in which there are broken pieces of leaves, twigs, and grass. If there is any fine clay near your school, bring in a sample of that.

Plant some seeds in the different soils. Put them in a sunny window and water them every other day. In which soil do the plants grow the best?

We know that farmers are the most important workers in the world, for without them we could not get our food and clothing. But farmers cannot make things grow without the help of Nature. There must be warm sunshine, plenty of water, and soil which contains the food that the plants need. Without these three things the rice will not grow for the Chinese, or the sugar for the farmers in Cuba. Without sun and water and rich soil there would be no wheat fields and no cattle and sheep ranches. There would be no trees loaded with cocoa beans and coffee berries, no tea plants on the hillsides of distant countries, no juicy



GOOD AND POOR SOIL

In the field shown in the picture on the upper half of the page the soil is poor. Only small crops can be grown on it. See what a fine crop of corn the farmer has raised in the field shown in the lower picture.

This is because the soil is rich

oranges for us to eat, and no cotton plants growing in the South to give us the fiber for our clothes.

Plants would not grow and we could not live without the sunshine, the water, and the rich soil.

In most parts of the earth the soil covers the solid rock beneath. In places it is many feet deep. In other places it is very thin, and the bed rock lies close to the surface. Perhaps you have seen places where the rock lies on the surface with no covering of soil.

What is soil? Most soil is made from rocks. They break up and crumble into sand and clay. Wood, leaves, plants, and grass decay and make soil which we call leaf mold. They give back to the earth the goodness which sun and rain have given them. Leaf mold is very rich, and plants grow well in it. Leaf mold mixed with sand and clay is called loam. This is a good soil for plants.

Where the soil contains the food that plants need, they grow well. Where there is little plant food in the soil, farmers have to put in more. This food is called fertilizer.

What makes soil rich? Why are not all soils alike? What different soils have you seen?

RAIN AND WHAT IT DOES FOR US

Wet your hand and hold it in the sunshine for a few minutes. What becomes of the water when your hand dries? What becomes of the water in the clothes that are hung out to dry? When it stops raining, the sidewalks are always wet; in a few hours they are perfectly dry. Where has the water gone?

Put a saucer of water in a sunny window in your school-room. Look at it every day. What becomes of the water?

How long could you go without a drink of water? People traveling across deserts where there is no water sometimes die of thirst. All animals need water. Have you ever watched thirsty horses or dogs or birds taking a drink? Plants need water, too. Without it they soon wither and die.

The rain is the farmer's friend, for without water he could not raise his crops. Where does the rain come from? We know that it never comes from the clear blue sky. Before the rain falls, the gray clouds gather high above us, hiding the sun's face. We say that the rain comes from the clouds.

Clouds are really just masses of little particles of water vapor. Perhaps you have never heard of water vapor before, but you know what water

is and what air is. The air can always hold a great deal of water if it is in very tiny particles. The water in your saucer in the schoolroom changes slowly into little particles of water vapor which disappear into the air. Water vapor is invisible; we cannot see it, but we can see that the water in the saucer grows less from day to day.

Sometimes the tiny drops of water which are in the air gather on plants and leaves. Then you say, "Oh, see the dewdrops!" In cold weather Jack Frost comes along and chills the water vapor, and it changes into soft snowflakes. Sometimes the frozen vapor gathers on grass and leaves and on the windows in your house. Then you cry, "Oh, look at the frost!" Has Jack Frost ever painted beautiful pictures on your windows?

Water vapor is always rising from the oceans and lakes and ponds and rivers, and even from the mud puddles. Sometimes the air gets very full of the tiny particles of vapor; sometimes a cold wind comes along and chills it so that it cannot hold the water vapor. Then the raindrops come pattering down. The rain washes the dust from the leaves of trees and plants and gives the thirsty roots a drink. So many of the drops sink

into the earth that they make brooks and rivers which flow along in dark beds underground. Sometimes the brooks bubble out of the ground in springs. Did you ever drink the pure cold



GETTING A COOL DRINK FROM A SPRING

water of a spring? Many raindrops run away into brooks and rivers which flow on the surface of the ground. But wherever they go they are all sure to get back sometime to their ocean home to sparkle in the sunshine and dance on the waves.

How many uses of water can you name? Write them on paper and see who will get the longest list.

HOW BROOKS AND RIVERS HELP MEN

Is there a brook near your school? Have you ever seen a river? What is its name? Where is it?

After a hard rain what color is the water in the brooks and in the gutters? What makes it this color? If there were no sewers under the streets, what would become of the water in the gutters? Have you ever seen a place where the soil has been washed away? What did it? What has become of the soil? Do you ever find fine mud in the gutters? Where has it come from? What moved it from the place where it used to be?

Hear the river singing as it flows along:

I work and sing, and sing and work, in rain and sunny weather,

And man could never get along if we did not work together.

•
Brooks and rivers wash away soil and rocks and carry them along in the water. They rub the rocks against one another and against the banks and the bed, and grind them finer and finer. Soon the water looks very muddy.

The little brooks flow into some larger river, carrying their loads of sand and mud with them. When it rains hard, the brooks are very full. Their waters are muddy with the soil they are carrying.



A GEOGRAPHY LESSON OUT OF DOORS

See how the brook made by the rain has worn away this banking. The water has carried the soil far away and left the stones behind. Why did not the water carry the stones as far as it did the soil?

Soon the river cannot hold all the water that the brooks are bringing. It rises so high that it overflows its banks and begins to spread out over the land. It cannot carry its load of mud any

longer, and so some of it is dropped on the level fields along its banks.

Because the river floods the plain that borders it, we call the land a flood plain. The mud which the river drops on its flood plain makes the soil rich. Farmers can raise good crops on it. You will read later about Ali, who lives on the flood plain of the great river Nile.

The river does not drop on its flood plain all the mud which it carries. It takes some of it to its mouth and drops it on the low, level land there. We call this land a delta plain.

Flood plains and delta plains are level and are made of fine, rich soil. The very best farms in all the world are on the flood plains and delta plains of great rivers.

After a hard rain see if you can find a little brook making its flood plain or its delta plain.



AT THE BROOKSIDE

MAKING THINGS GROW IN A DESERT

What would happen to the plants in your schoolroom if you should forget to water them? How does the grass on lawns and in parks look when no rain falls for a long time? Tell some other things which rain does for us.

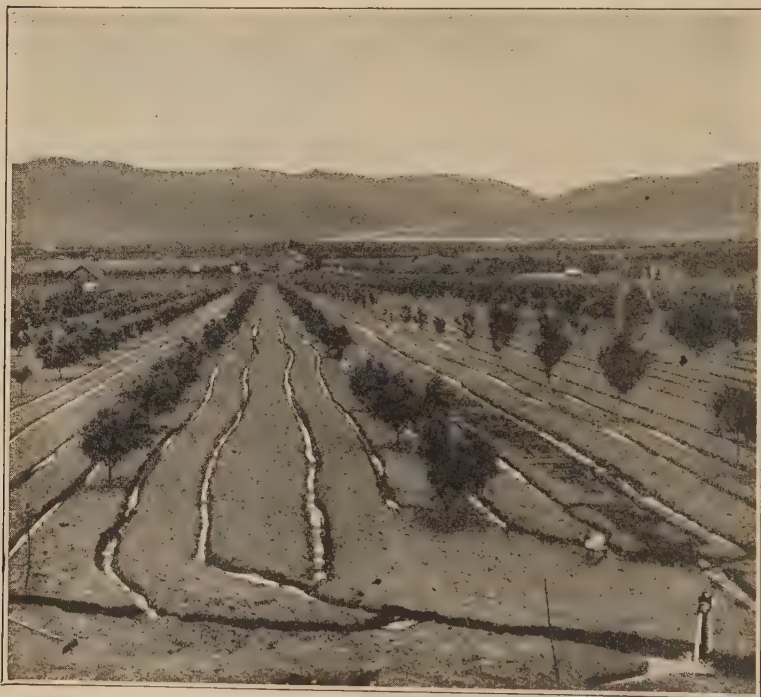
Plants and trees cannot live without water any better than you can. In many parts of the world Nature sends the raindrops down to water them. But there are some places where it never rains, and other places where so little rain falls that the soil is very dry nearly all the time. Plants and trees cannot grow in such dry places.

It sometimes happens that men want to raise grains and fruits and vegetables in one of these dry places. They may wish to build villages and towns there. So they study and work to see if there is any way in which they can bring water for their crops.

If there is a river not too far away, the men build a dam to hold back some of its water, thus making a great pond or lake called a reservoir. Then the men build canals and ditches to carry the water from the reservoir to their fields.

Every few days they let the water flow between

the long rows of plants in their fields and the trees in their fruit orchards. The water and the warm, sunshiny days make the crops grow well.



IRRIGATING A FRUIT ORCHARD

Imagine you are a drop of water in one of these ditches. Tell where you came from, how you reached this place, and why you are needed

This way of watering crops is called irrigation. There are many farms in the western part of our country which are watered by irrigation.

THE POWER OF FALLING WATER

Are there any brooks or rivers near your home? Are they swift or slow? What makes a brook flow swiftly? Where do we find slow, winding brooks? Have you ever built a dam across a brook? What happened after the dam was built?

When brooks and rivers flow swiftly or drop in falls over steep places, they have a great deal of power. You have read how they push rocks along and wear away their beds and banks.

Long ago people did not know much about steam and coal and electricity. They built their mills by the side of a brook or river. The swift water falling on the mill wheel turned it round and round. The wheel was connected by belts with machinery inside the mill. When the mill wheel turned, it moved the machinery that ground the grain.

Some mills are run today by water power, but many more are run by steam or electricity. It takes coal to make both steam and electricity. Our coal supply is growing smaller each year. When it is gone, there will be no more for us to use.

Today men are making the power that is in falling water do some of the work that coal has done

for us. 'There are many swift rivers with waterfalls and rapids in our country. If we use the power in these falling waters instead of so much coal, our coal supply will last many years longer.



© Keystone View Co., Inc.

AN OLD GRIST MILL

The falling water turned the mill wheel round and round, and thus moved the heavy flat stones between which the grain was ground

So people are harnessing our waterfalls and using their power to produce electricity. They carry the electricity on wires for many miles to light streets and houses, run cars, and move machinery.

Name some things for which electricity is used.

THE FISHERMAN

What kinds of fish have you ever eaten? What kinds of canned fish does your mother buy in stores? Where do oysters, clams, and lobsters live? Why are these called shellfish? Did you ever catch a fish to eat? What kind was it?

Make a chart of pictures of different kinds of fish. Soak off labels from cans of fish and mount them on another chart. How many kinds of fish have you on both charts? Visit a fish market and see if you can name the kinds of fish for sale. What is the largest fish there?

Fishermen, as well as farmers, give us many things to eat. Some fishermen go on long voyages far out on the ocean to catch cod and mackerel. Sometimes they are out in terrible storms. The waves are so high that they break over the ship. On winter trips the water freezes, and everything on the ship is covered with ice.

Cod fishermen use lines that are sometimes a mile long. Many short lines with hooks and bait hang from the long line. The men put out from the vessel in small boats to fix the lines or to get the fish that have been caught. Sometimes when they are out in the boat they are caught in a fog. It is so thick that they cannot see the other boats



TWO YOUNG FISHERMEN

or tell where their ship is. Fishermen are sometimes in great danger when they are lost in a fog.

Icebergs are another danger. An iceberg is a mass of floating ice many times larger than a ship. If an iceberg strikes a ship, it may sink it. Sailors keep a sharp watch for dangerous icebergs.



A FISHING SCHOONER

This is the kind of vessel in which fishermen go on trips after cod and mackerel. They put out from the schooner in boats called dories.

How do they catch the fish?

Some fishermen work near shore. They catch lobsters in traps. They dig clams in the sand. They get oysters in the shallow water. This work is not so dangerous as deep-sea fishing.

A CAN OF SALMON

In what kind of store does your mother buy salmon? Does the label on the can tell you where it comes from?

Many salmon live in the Pacific Ocean. Point toward it. How long would it take you to get to it? Should you travel by land or water? In what direction should you go?

The next time you go into a grocery store notice the rows of canned salmon on the shelves. Nearly all the salmon we use comes from the shores of the Pacific Ocean.

Salmon spend most of their lives in the ocean. After three or four years there, in the late spring or early summer, they swim up some river to a small stream or pool. They often swim through swift waters and leap over falls. When they begin their journey, they are fat and plump; but when they reach the little streams or pools, they are thin and tired. They lay their eggs and soon die.

Many little salmon are hatched from the eggs. When still very young and only about an inch long, they begin their trip down the river to the ocean. Larger fish hide in the shadows and pounce upon them. The little salmon which escape are weeks and sometimes months on their trip downstream.



A LOAD OF SALMON FOR THE CANNERY

About how many pounds do you think each salmon weighs? They are larger than they appear to be in the picture. (Courtesy of Canadian Government Motion-Picture Bureau, Ottawa, Canada)

In the deep ocean waters they make their home until they are fully grown. Then, sleek and fat, they start on their trip up the same river to the place where they were born. This is the time of the year when the salmon fishermen make their big catch.

Some of the fishermen use nets, and the salmon get tangled in the meshes. Some use traps; the fish swim into them, but cannot find their way out. Boats near the shore are fitted with big wheels on which baskets are fastened. As the wheels turn round, the baskets dip one after another into the water and scoop up the fish. Indians sometimes spear salmon.

The boatloads of salmon are taken to the big canneries near the shore. Here machines slice the fish, put it into cans, and fasten on the tops. Then the cans roll away, like a procession of soldiers, to the great steam cookers. When they come out, they roll into their labels and then roll on to the packing room.

Many carloads of salmon are shipped from the canneries on the Pacific shores. Ask your grocer if he knows where all the cans of salmon which he has on his shelves came from.

The picture on this page shows you thousands of cans of salmon in a big cannery. There are many other salmon canneries along the shores of the Pacific Ocean where you could see thousands



CANS OF SALMON IN A CANNERY

These cans are ready to be shipped from the cannery. Do you live in the part of the country where the canneries are? In what direction will these cans travel to get to your home?

more. Think what great numbers of salmon must be caught each year. Think, too, of the amount of tin needed for so many cans, and of the number of men who are busy catching the fish, making the tin cans, and working in the canneries.

DIFFERENT KINDS OF HOMES

What animal homes have you ever seen? Of what are they made? In what kind of homes do bears live? rabbits? birds? snakes? frogs? horses and cows?

Of what materials are the homes on your street built? Of what other materials are homes sometimes built? How many families are living in your house? How many families live in the largest house you ever saw?

Can you think why houses in dry lands are built with flat roofs, and why most of those in countries where rain or snow falls have roofs which slant?

Everybody has a home to live in. Some homes are very different from others. Most homes in the country are surrounded by green fields and pastures and trees. Homes in towns and villages have pleasant lawns and gardens. In large cities there is no room for such things. The houses are crowded together near the sidewalks.

Some houses are big enough for only one family. Others are very large. In great cities dozens of families live in one building.

Some of the Indians in the dry part of our country live in houses made of bricks dried in the sun. Such homes would not last very long if they were in places where a great deal of rain or snow falls.

During the winter the Eskimos in the north live in houses built of rocks or snow and ice. In



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A HAPPY HOME IN OUR OWN COUNTRY

These children are having an interesting time at home playing parchesi. What games do you play at home?

the summer they live in tents made of skins. In hot lands houses are built of leaves and grass. Little Nakla in the desert, about whom you will

read later, lives in a tent. She moves often, and the tent can be easily taken down and put up again.



AN ESKIMO FAMILY AND HOME

You will read later about Ahtitah, our little Eskimo friend. She looks as if she wanted to tell us some stories about her home

Everybody loves his home. When we are tired or sick or lonesome, it is good to get home to father and mother. In cold or stormy weather everyone hurries to get home. When school is out, we like to get home to our playthings and tools.

WHAT OUR HOMES ARE MADE OF

Count the wooden houses which you can see from your schoolhouse. Count those made of brick. Have you ever seen houses made of anything else besides wood and brick? What is the foundation of your house made of? What holds the bricks together in a brick house?

Are there any houses, sidewalks, or streets being built near your home? Watch and see how the work is done and tell the class about it. Of what are birds' homes made? Have you ever watched a bird building its home?

Many houses in our country are built of wood. Some are built of bricks. Bricks are made of clay mixed with water. They are cut into the right shape by machines and then baked in large ovens. The baking makes them hard so that they will last a long time. Brick houses are safer than wooden ones, for they do not catch fire so easily.

Have you ever seen a stone house? Different kinds of stone are used for building: sandstone, limestone, slate, granite, and marble. Are there buildings or monuments or steps in your town made of any of these stones? Can you find out where the stone came from?

Has your schoolhouse a slate roof? Why is it

better than a wooden roof? What is there in your schoolroom made of slate?

We get building stone from quarries. Machines cut the hard rock into great blocks, and others lift



A PLEASANT HOME

Courtesy of Fiske & Co., Inc.

Of what is this house built? What other materials do you know which are used in building houses? in making streets and sidewalks?

them out of the quarry to trucks or cars. These carry the blocks of stone to cities where they are used for building.

Have you ever seen a building made of cement or concrete? Cement is made of clay and limestone.

These are crushed together in big machines and then heated until they make a hard rock. This rock is ground into a fine powder, put into bags, and sold.

Perhaps you have seen men working with cement. They mix it with water, put it on the wall or sidewalk, smooth it off, and leave it to dry. As the cement dries it hardens, and will then last a long time.

Concrete is another material which is used in building and in laying streets and walks. It is made of cement mixed with rock or sand and stirred up with water. Are there any concrete walks near your school?

See if you can find some pictures of different kinds of homes. Bring them to school and mount them on cardboard. Find out if you can in what country each home is.

FORESTS AND LUMBERMEN

What things made of wood are there in your house?
in your schoolhouse?

Have you ever spent a summer in the deep woods?
Tell the class about it.

Bring to school a leaf from each of as many kinds of trees as you can find and name. Bring in pictures of forests and lumbering for your lumber chart.

What should we do for our desks and chairs and tables, our floors and doors, without the forests and the lumbermen who work in them? Much of our writing paper and the paper used in newspapers and books is made from wood also.

It is very pleasant in the deep woods. The wind whispers in the tree tops, and the shadows flicker to and fro on the ground. It is cool, too, for the trees shut out the hot sunshine.

The woods are pleasant in the winter when the snow covers the ground. In the cold parts of our country this is the time of the year when the lumbermen do most of their work. It is easier to draw the big logs out of the woods on sleds than on wagons.

The horses pull the loads of logs over the snow



PLAYING AMONG THE BIG LOGS

and ice to the river side. When the warm spring sunshine breaks up the ice in the river, the work-



LUMBERING ON LAND WHICH BELONGS TO THE UNITED STATES
GOVERNMENT

These men are hauling railroad ties out of the forest. Think how many ties are needed each year to replace the worn-out ones on our thousands of miles of railroad. This is one of the important uses of lumber.

(Used by courtesy of the United States Forest Service)

men roll the logs into the stream. Away they go in the swift current down to the great sawmills.

The men who work among the big trees in the western part of our country use engines instead

of horses to drag the heavy logs out of the woods. A chain is fastened to a log and, with a rattle and bang, the engine begins to work. As it winds up the long chain, the big log comes crashing and tearing through the underbrush. Soon it is loaded with other logs on a train of low, flat cars, and they start on their way to the mill.

Buzz! buzz! buzz! buzz! How the great saws scream! They take off the bark and slice the logs into boards and planks as easily as if they were slicing cheese.

It takes many years for a tree to grow. We are cutting so many every year that our forests are getting smaller. Many trees are killed by forest fires. When you camp in the woods, stamp out all sparks before you leave your camp fire. Then no harm will be done.

Is there a place near your school or around your home where you can plant some trees? This is a splendid thing to do. When you grow up, you can enjoy their beauty and shade. They will give pleasure also to many other people.

THE FUEL WE BURN

What do you burn in your kitchen stove? in your fireplace? in your furnace? How do coal and wood get to your city? Is gas made in your town? Do people burn anything else besides wood, coal, and gas? Watch the freight trains that pass through your city and count the coal cars.

Long ago people had no stoves in their houses. They burned big logs of wood in fireplaces like the one which you saw in the picture on page 2. In very cold weather they had to sit near the fireplace to keep warm. The women did their cooking over the open fire and their baking in big brick ovens built into the chimney.

Most of the people in cities now burn coal or gas. Most gas is made from coal. There are places in our country where people use natural gas, which comes from the ground. Some people burn oil which is found underground. This oil is called petroleum.

Coal comes from mines in the earth. Men dig great openings, called shafts, down into the mines. These shafts are hundreds of feet deep. The coal is lifted out of the mine on elevators and the

miners go down on them to their day's work. Some mines are entered through tunnels, and the coal is brought out on cars.

Let us go down into a mine. We stand close together on the elevator. As it plunges swiftly down through the darkness we catch our breath.

Here we are in the mine. See the electric lights shining in the long tunnels. The walls and floors and ceilings are of coal and rock. Here comes a car loaded with coal. It is run by electricity. In some mines the coal cars are pulled by horses and mules. Their stables are down in the mine. Some of the animals have never been up into the sunlight.

Let us walk out where the miners are working. Here is one drilling a hole in the hard coal. He puts in some explosive, lights a fuse, and then hurries away. Hark! did you hear that explosion? Let us go back and see what has happened. The blast has torn down a lot of coal from the wall. A workman is breaking it up and loading it on a car. Then he starts it toward the shaft, where it is lifted on the elevator to the surface.

There are different kinds of coal. The hard kind is called anthracite. After anthracite coal is mined, it is taken to a building called a breaker.

Here it is broken into different sizes, and the rock which is mixed with it is sifted out. Many people burn anthracite in their stoves and furnaces. Most of our anthracite comes from Pennsylvania.



AT WORK IN A COAL MINE

These miners are hundreds of feet below the surface of the ground. How did they get down there? Notice the walls and the ceiling of the tunnel. Of what are they made?

Many states have beds of softer, or bituminous, coal. Find out which kind you burn in your house. Which kind is burned in the factories in your city? Which kind of coal makes the blackest smoke?

WHAT IS COAL?

What kinds of coal did you read of in the last story? Can you spell these two long names? Spell the name of the state from which anthracite coal comes. Bring to school for your collection a piece of each kind of coal. Perhaps you can find a piece which has on it a print of a leaf or fern like that in the picture on the next page.

Do you like fairy stories? In the story of Cinderella it was a fairy who turned the pumpkin into a coach, and the mice into prancing horses. She turned Cinderella's rags into a lovely dress. Do you think that this story is true?

Nature is more wonderful than any fairy, and her stories are true. She has written them in the brooks and rocks and soils. Men have learned to read many of these stories. One of them is about coal.

Many, many ages ago, long before people lived on the earth, beautiful trees and plants grew where the coal beds are now. The weather then was hot and damp, and the trees and ferns grew very large.

Then, as now, parts of the earth's crust on which we live were rising very, very slowly. Others were slowly sinking. Where these deep forests grew,

the land sank, and water covered the ground. The trees and the plants died, and the dead trunks and branches and leaves fell in thick layers. The



FERNS IMPRINTED ON PIECES OF COAL

When this coal was being made, some ferns were pressed firmly and smoothly against the hardening mass. Thousands of years later the coal was mined, and we can see the exact form of the ferns which grew long ago in a Pennsylvania valley

brooks and the rivers brought down soil in their muddy waters, and very slowly the tree trunks and plants were buried under it.

Then other forests grew and died and were

buried in the same way. This happened several times. Under the thick layers of mud which covered them, the trunks of the fallen trees, the branches, the leaves, and the plants very, very slowly decayed, or rotted.

As the weight of the mud above them grew heavier and heavier the remains of the forests were changed, little by little, into coal. It took long, long ages for this to happen. Is not the changing of plants into coal more wonderful than changing pumpkins into coaches, and mice into horses?

When the mountains were made, the crust of the earth was wrinkled and folded. That is what mountains are—great wrinkles in the earth's crust. While the mountains were being made, the coal layers were pressed harder and harder and lifted nearer the surface. As time went on the rains and frosts and the brooks and rivers wore away much of the soil and rock which covered the layers of coal. Thus men were able to get at them.

What should we do if Nature had not buried the forests, changed them into coal, and then lifted the coal beds so that we could use them?

Imagine that a fairy has changed you into a piece of coal. Tell the class the story of your life.

OIL AND GAS

Have you ever seen a man putting grease and oil into his automobile? Have you ever noticed an engineer on the railroad greasing and oiling his engine? What other machines have you seen being greased and oiled? Why is this done? What do we buy to run our automobiles? What kind of oil is burned in lamps?

In certain parts of our country there are many people who do not heat their houses with wood or coal or gas. What do you suppose they use? It is one of the treasures which Nature has stored in the ground, and it is called petroleum. This is used also as a fuel in factories and to run engines and ships.

In many places this thick, dark oil fills the little spaces in the rocks deep underground. Men drill wells and put down pipes into the beds of petroleum to bring it to the surface. Sometimes the oil shoots into the air like a great fountain. More often it has to be pumped up.

You would never guess that petroleum could be made to give us so many useful things. When it is heated, lighter oils are taken from it. First of all, there is the gasoline which we use to run the

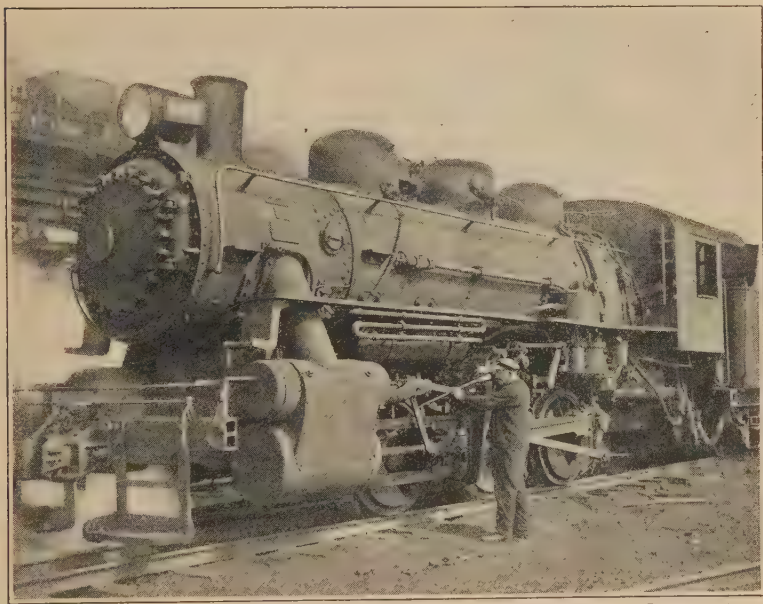
engines in our automobiles, motor boats, and airplanes. Then there is the kerosene which so many people burn to light their homes. The thicker, darker oil that is left after these oils have been taken out makes a good fuel. People who live in parts of the country where petroleum is found use it to heat their houses. It is carried for miles underground to mills and factories and used for fuel. Many ships burn petroleum instead of coal.

Most of the oils and greases that are used to make engines and machines run smoothly come from petroleum. The white paraffin that your mother puts over her jelly tumblers is made from petroleum. It would take a whole book to tell about the useful things that we get from this oil.

In and near the places where petroleum is found, gas is also often hidden in the ground. Because Nature made it, it is called natural gas. Men drill wells for the gas much as they do for petroleum. They pipe it to towns and cities and use it for heating and lighting.

We use a great deal of coal and a great deal of oil. Men who know tell us that some day there will be none left to burn. What shall we do then? Perhaps we shall find out how to make the sun's

rays give us heat for our houses and factories. We shall surely make more use of electricity. What do we use electricity for now? Why should we be careful not to waste our coal and petroleum?



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AN ENGINEER OILING HIS ENGINE

Where does the oil in the engineer's can come from? Why does an engine need oil?

See how many places you can find in your city where petroleum or its products are used.

Does the gas which is used where you live come from the ground or is it made from coal?

IRON, COPPER, AND SOME OTHER METALS

What metals are used for money? for jewelry? for machinery? What is there in your schoolhouse made of iron or steel? in your home? What things of iron or steel does the farmer use? the fisherman? the lumberman? the miner? the carpenter? the mason? Are there any mills in your city where iron is manufactured?

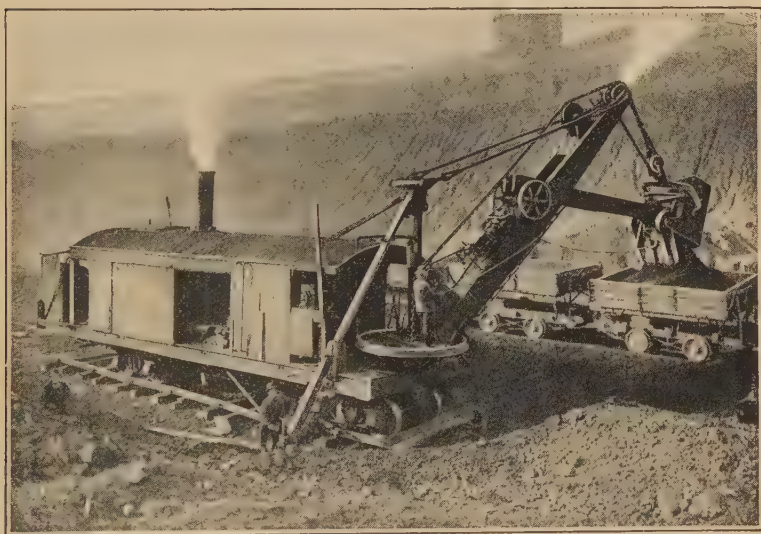
There are many, many minerals found in the world. Some of these are called metals. We get metals, such as iron, copper, zinc, lead, gold, silver, and nickel, from mines. Most of these mines are deep in the earth like the coal mine of which you read.

Metals are usually found in rocks, and the rocks which contain them are called ores.

Iron is one of the most important metals in the world. We could not live as we do if we had no iron. Without iron how should we make the wonderful machinery in our mills and shops and factories? How could we get along without iron for nails and locks and hinges, for plows and ships and engines, for wire and rails and cars, and many, many other things?

There are wonderful iron mines in our country.

Some, as you have learned, are deep in the earth as the coal mines are. There are other places where the iron is mixed with the rock and soil much nearer the surface of the earth. Here it is mined



A STEAM SHOVEL AT WORK

© Ewing Galloway

The man operating this machine let the shovel down against the bank to pick up a load of ore. He lifted it and swung the long arm around until the shovel was over the empty car. Then he opened the great jaws to let the ore fall into the car

in great open pits. Steam shovels, such as you see in the picture, scoop up big mouthfuls of the reddish, rusty-looking soil and drop it into the open freight cars which are waiting to be loaded.

Iron mixed with the rock and soil as it comes from the earth is called iron ore. It takes many long freight trains and big vessels to carry the iron ore to the large cities. Here in great stoves, called blast furnaces, the iron is melted and separated from the dirt and other impurities. This is called smelting. After iron is smelted it can be made into things which we need. Much of it is made into steel. This is harder and stronger than iron and is used for many manufactures.

See how many things made of iron and steel you can count on the streets and in the store windows. Get as long a list as you can.

Copper is another very important metal. We get copper chiefly from deep mines somewhat like coal mines. Like iron ore, the copper ore has to be melted and the copper separated from the impurities which are in the ore.

Perhaps someone in the telephone or telegraph office can tell you how many miles of copper wire are used in your city in carrying messages. Think of the many, many towns and cities in our country and in other countries where copper wire is used in this way. You can see how very necessary it is that a great deal of copper should be mined.

HOW WE USE RUBBER

Count the automobiles which you see on your way home from school. Of what are their tires made?

What things made of rubber have you in your house? What things made of rubber can you buy in a drug store? What do you wear which is made of rubber?

How should we get along without rubber? Think of the millions of tires for automobiles and trucks which are made every year! Where does all this rubber come from? Your rubbers and raincoat are soft and smooth; tires are hard and strong. It is hard to believe that the rubber of which these things are made is the milky juice of a tree.

The trees from which we get rubber grow in the hot part of the world. We used to get all our rubber from wild rubber trees which were scattered through great forests of other kinds of trees. To make it easier to collect the juice from which rubber is made, men have planted millions of rubber trees on plantations. Most of our rubber now comes from these rubber plantations.

The workmen go out in the morning and cut little gashes through the bark of the rubber trees.

They hang little cups beneath the cuts which they have made. The milky juice, which is called latex, drips slowly from the trees into the cups.

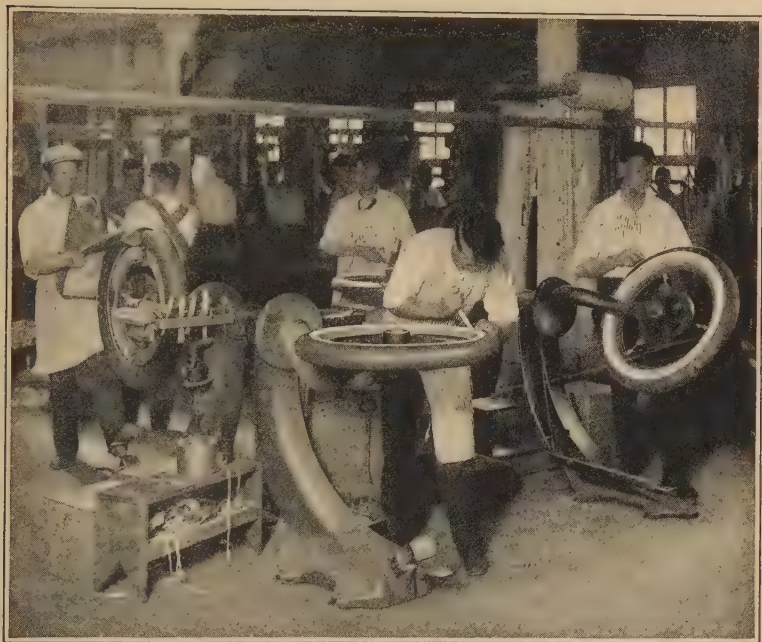


ON A RUBBER PLANTATION

These workmen are collecting the juice from the rubber trees which they have tapped on this plantation. Why were the gashes made in the bark of the trees?

Later in the day the men collect the latex and carry it to the building where it is prepared. Here workmen pour it on hot tables. The heat makes

the latex harden, and it is pressed into thin sheets of rubber. These are rolled up and removed, and another layer of the latex is poured on the



MAKING TIRES FOR AUTOMOBILES

There are millions of automobiles in our country. Think how much rubber is needed for all the tires which must be manufactured. How many other things made of rubber can you count?

hot tables. This soon forms another sheet of rubber, which is rolled up and taken away by the workmen. Then the tables are ready for another layer of the milky juice.

The workmen who prepare the latex which comes from the wild trees in the forests of Brazil and other countries work in quite a different way. A rubber gatherer here walks for miles through the forest collecting the rubber juice from the little cups which he had hung on the trees.

He carries the juice to his hut and makes a fire on the ground. He uses nuts which he has gathered for his fuel. These make a thick smoke. Then he fixes a stick over the smoky fire and pours some juice over it. As it hardens he pours on a little more juice. He does this until he has a large ball of hardened rubber.

Many things have to be done to the rubber after it is brought from the hot lands to our factories. It must be prepared so that it will not melt in hot weather or crack when it is cold. Men studied and made experiments for many years before they found out how to treat rubber to make it so useful.

How many ways can you think of in which rubber is different from cotton?

MANUFACTURING

Are there any mills and factories in your city? What is manufactured in them? What becomes of the articles made in them? What things that the factories need are brought to your city? How do they get there? Where do they come from? What difference would it make to you if all these things should stop coming into your city?

What do you wear that is made in mills and factories? What do you eat? What do you use?

Bring in for your school collection samples or pictures of things which are manufactured in your city or in the towns around.

We have visited cotton plantations, cattle and sheep ranches, and great wheat farms. We have seen lumbermen and fishermen at work. We have watched miners getting out coal and iron, and we have learned of many other useful minerals.

The cotton as it comes from the plant is of little use to us. We cannot build houses of the heavy logs as they lie in the forest. We cannot take the rubber juice as it comes from the tree and make it into raincoats. We cannot use the dirty, greasy wool as it comes from the sheep. The skins of cattle and sheep and goats do us no good until

they are made into leather. A mass of iron ore in the mine is of little use there. What could we



IN A GREAT WOOLEN MILL

This is a room in a woolen mill. Wool as it comes from the sheep is dirty and greasy and is first washed in hot soapy water. Then it is sorted and sent into other rooms. These men are sorting wool

do with it? Before we can use all these things they must be manufactured into useful articles.

Long ago, when a man killed his cow he prepared the leather from the hide. Then he cut out

the pieces for his shoes and sewed them together. It took him a long time to do this work, and the shoes which he made were stiff and uncomfortable.

Now cattle and sheep are killed in great buildings at the rate of several thousand a day. Their skins are sent to tanneries and made into soft leather. This goes to the shoe factories, where workmen cut it up, and wonderful machines sew and hammer and smooth and polish it until hundreds of pairs of shiny, well-made shoes come tumbling into the packing room. Here they are put into boxes and sent all over the world.

How could we get along without our mills and factories and foundries and creameries which manufacture for us the things we eat and wear and use? If you lived like Robinson Crusoe and had to make everything for yourself, what things should you have to do without?

TRADE AND TRANSPORTATION

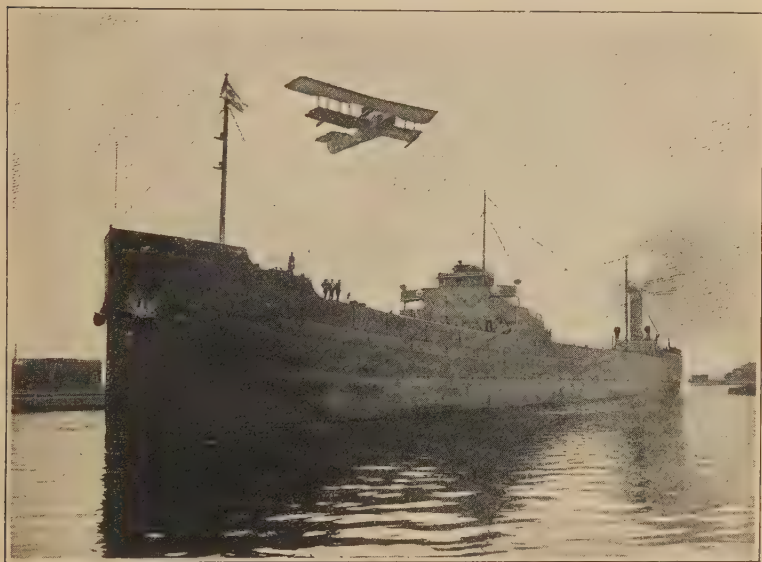
What goods come by train into your city? What are sent away in trains? Are any goods brought or taken away in any other way?

What goods have you seen being carried through your streets? Where do they come from? Where are they going? What things sold in stores in your city come from across the ocean? How did they get here?

If a storekeeper were in a hurry to get some goods from another city, how could he send the order for them? Suppose the city was across the ocean, what would be his quickest way of getting a message there? Would it be possible for him to get word to a ship part way across the ocean?

Many of the things which we use come from long distances. The goods on the shelves in the grocery store and the meat in the market have been brought to us from other parts of our own country and from countries across the water. The cloth and ribbons and dresses and shoes and other things which the merchant has in his store may have come from places hundreds and even thousands of miles away. The iceman has to get his ice, the coal dealer his coal, and the manufacturer the machines and the goods for his factory.

The things which are made in mills and factories would be of little use to people if they could not get them. Articles made by people in other countries would do us no good if they remained



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MODERN METHODS OF TRANSPORTATION

What method of travel is the fastest? Which is the most used by people? How is the most freight sent?

on the other side of the great oceans. If we could not get them to the place where we live, it would make little difference to us if dresses and ribbons and shoes and coats were made by the millions in some city hundreds of miles away. If a friend

wrote you a long letter, it would give you no pleasure if there were no way to send it to you.



TRANSPORTATION IN A SMALL RUSSIAN VILLAGE

There are other and better ways of carrying goods in Russia than this way. In some of the small villages there are no railroads or good roads, and the people have to depend on their own strength to carry goods from place to place. This is true in many backward countries

Now you are thinking how very useful our ships and trains and motor trucks are. How different our lives would be if we did not have them! The farmer would raise no more wheat than he could use himself if he could not send it to people who

needed it. Men would not build mills and factories if they could not send what they manufactured in them to people who live far away. There would be no large cities if everybody had to live on farms and raise their own cattle and hens and grain and fruit and vegetables.

Buying and selling is called trade or commerce. The business of carrying goods from one place to another is transportation.

People carry, or transport, goods in different ways. Negroes in Africa carry rubber, nuts, and ivory on their backs for many miles. In parts of their country the Chinese carry heavy packs of tea in this way. In some lands people use oxen, camels, donkeys, dogs, and reindeer to carry or draw loads.

We use vessels and trains and motor trucks for transportation. Great ships bring us goods from other countries. They carry our cotton and wheat and meat to people in other lands beyond the wide ocean. We are beginning to use airplanes to carry passengers and mail. Sometime they will carry much freight also.

In what ways have you ever traveled?

WHY WE NEED LAWS

What man is at the head of affairs in your city? In what building is his office? What other offices are in this building? Who owns this building? Who built and paid for it?

Who make the laws in your town? What are some of these laws? Why do we need to have laws? Who sees that the laws are obeyed? Who cares for the streets in your town? the electric lights? the water supply? the schools? What other officers are there in your town? What do they do? Which of all these duties should you like best to do?

When people first began to live in settled homes, they began to own property. It may have been sheep and goats, furs and skins which they got from the wild animals, palm trees which bore dates for food, camels which carried loads on long desert journeys, or tools with which they did their work.

When men began to own things, they had to make laws to protect them. They had to see that these laws were obeyed.

In our towns and cities we have many things to make us comfortable, such as water, lights, wide streets, smooth sidewalks, and good schools. We cannot get all these things for ourselves, so we

pay men to provide them for us. We want also to be protected against fire and floods and thieves and other dangers. To make our lives and the



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ELECTRIC-POLE MEN AT WORK

These men are repairing the damage caused by a great storm. What harm would be done if they did not do their work well?

things that we own safe we have to have laws. We pay men to make them and to see that people obey them. We have laws to protect us and provide for things that we need in cities and towns, we have state laws concerning things that affect

a whole state, and we have laws made by the government at Washington for the whole country.



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FIREMEN AT WORK

What other workers besides firemen are there in your city who help to make it a safe and comfortable place for you to live in?

Can you name a law of your town or city? one which was made for your state? one which was made for the whole United States?

Make a list of all the officers in your town. Why should they be honest and loyal?

II. OUR WORLD NEIGHBORS

OUR WORLD NEIGHBORS AND THEIR WORK

What work does your father do? What work do other men who live on your street do? The work which one does is his occupation. Name all the occupations of which you can think. What ones are carried on in your city?

We have been reading about the different occupations of people. Many have farms and ranches and raise grain, fruit, and vegetables, or cattle and sheep. Some are fishermen and supply us with food from the ocean. Some work in forests and sawmills. Others work in deep mines or get out stone from quarries. Many people work in mills and factories and foundries where wheat, cotton, wool, iron, and other things are manufactured into useful articles. Still others drive great ships, trains, and motor trucks which bring us many things that we need.

All over the world people are working in these and other ways. Let us visit some of our neighbors who live in other countries and see what their homes are like and what work they do.

WHERE OUR WORLD NEIGHBORS LIVE

Do you live on a low coast land, in a valley, on a plain, or on a hill? You read in the story on page 68 about the



AN ESKIMO'S WINTER HOME

Can you think why an Eskimo does not build his winter home of wood?

(Courtesy of American Museum of Natural History, New York)

flood plains and delta plains which some rivers build. Do you live on one of these plains? Can you see any high mountains from your home? Can you see the ocean?

Our world neighbors live in many kinds of places. Some have their homes on high, level lands called plateaus. Some live on the slopes of

mountains and some in low valleys. Some live on islands in the midst of the ocean. Others live on the flood plains and delta plains of great rivers.



A VILLAGE IN JAVA

How many things can you see in this picture which tell you that this village is in a warm country?

Some of the people whom we shall visit make their homes on the coast lands near the ocean. Others live on plains many, many miles inland. Some of them have never seen the ocean or a high hill.

Some of our world neighbors live in lands where it is always warm; others live where the weather is nearly always cold. Some have their homes where it rains many days during the year; other boys and girls have never seen any rain or snow.

The kind of place in which people live makes a great difference in their lives. Those in cold lands eat different food, have different homes, and dress differently from those who live in hot lands. Those near the coast do not do the same kind of work as those who live many miles away from the ocean. The lives of the people who live on the highlands are unlike those who live on the plains.

PEDRO OF THE ANDES MOUNTAINS

The picture shows you Pedro, the Indian boy, and his home in the Andes Mountains in South America. Pedro is at the right in the picture, with his gay blanket wrapped around him. His mother wove the blanket from the wool of their sheep, which feed in the high pastures. She dyed the yarn with the juice of plants. She is now weaving a warm blanket for Pedro's father. When that is finished she will make some cloth for a new skirt for herself. She has on five now. As the weather grows colder she may put on two or three more.

It is a long journey to Pedro's home. We sail southward many days over the great ocean. Then we take a train which carries us part way up the mountains. When we come to the end of the railroad, we climb higher and higher. The air is thin up here. To get enough of it we have to breathe fast as if we had been running. Very likely our noses may bleed and we may feel dizzy and faint. Pedro is used to the thin air and does not mind it.

In the daytime the sun shines hot on the mountains. But the thin air does not hold the heat, and many nights are cold enough to freeze water.

Pedro does not seem to mind the heat or the cold. He goes barefooted. At night he wraps his blanket around him and sleeps on the earth floor of his hut.



LITTLE PEDRO AT HOME

Nature has hidden many treasures in the Andes Mountains. Men have found rich beds of tin, copper, silver, and other minerals there.

Up on the mountain above Pedro's home there is a big tin mine. Pedro's father carries machinery and food to the miners. He loads these things on

his llamas and drives them over the rough mountain trail from the railroad up to the mine. After the llamas are rested, he loads them with tin to



LLAMAS WITH THEIR LOADS

take down to the railroad station. At night he sleeps beside the llamas under the open sky and the bright stars.

The people who live in the Andes Mountains find their llamas very useful. They carry loads over the rough, steep mountain paths, their coats make strong cloth, and their flesh is good to eat.

Great flocks of sheep feed in these mountains. We may happen to see some alpacas also. They look like llamas, but their coats are finer and softer. Their wool makes beautiful cloth.

The Andes mountain system is one of the longest and highest in the world. Many of its high peaks are volcanoes. They sometimes have terrible eruptions. In these eruptions hot ashes are blown into the air, and melted rock, called lava, pours down the mountain slopes. Sometimes the ashes and lava have buried cities and towns.

Stop! did you feel the earth tremble beneath your feet? The trembling reminds us that we are in Earthquake Land. Sometimes the earth shakes so that churches and houses are thrown down and towns destroyed.

While we are here in the Andes Mountains we can ride on the highest railroad in the world. We can sail, too, on the very highest large lake in the world. It has a queer Indian name, but it is easy to pronounce. It is Lake Titicaca. The lake is higher than the tops of many mountains, and its waters are cold and deep.

There are no very large cities in the Andes Mountains. Can you think why this is so?

LUIS, THE BOY WHO LIVES ON THE MEXICAN PLATEAU

Our next visit will be on the high plateau of Mexico. This is in our own continent of North America. Mexico is south of us, but not so far south as Pedro's home.

The vessel which has taken us to Mexico leaves us at a city on the low, hot coast lands, and we take a train to climb the steep slopes to the plateau.

You read in the last story of the rich minerals which Nature has stored in the Andes Mountains. Mexico is another mineral treasure house. Thousands of Indians work in the mines here getting out copper and silver and other metals.

We are not going to visit the mines on this trip. We are going to see Luis, who lives on an hacienda. If you cannot pronounce this Spanish word, you may call it a ranch, for that is what it really is. Luis calls it an hacienda, for he speaks Spanish and not English as we do.

Luis's father does not own the hacienda. He is only a peon—a poor Indian workman. The ranch is owned by a rich Mexican, and hundreds of peons live and work on it.

There are different kinds of haciendas in Mexico. Some of them are down on the hot lowlands, where



A PEON'S HOME IN MEXICO

This is Luis's home. He is at the left of the picture, with his hat in his hand. Many peons in Mexico live in homes no better than this

rubber and sugar cane grow. Some are on the higher slopes, where coffee trees grow well. On the hacienda where Luis lives thousands of cattle are raised. Luis's father is a cowboy and takes long

rides in the hot sun over the plateau. He must see that the cattle find plenty of grass and water.

Luis's home is a little one-room hut. You can see a picture of it on the opposite page. There is no smooth wooden floor or pretty chairs and tables and pictures such as you have in your home.

Luis eats tortillas and beans. Should you not like to try a tortilla? It is made of corn. The kernels of corn have been soaked to soften them and loosen their outer coats. Luis's mother beats and grinds them until they are fine enough to use. Then she adds some water to make a dough. She kneads and pats the dough and rolls it out with her stone rolling pin until it is as thin as a cooky. Then she puts it on the iron griddle over the fire. In a few minutes it is done. Luis thinks tortillas are fine. What do you think?

TRUDI'S HOME IN SWITZERLAND

Little Trudi lives in a high valley among the Alps Mountains. She can look up from her door and see the white peaks against the blue sky. All over Switzerland there are beautiful mountains, deep valleys, and rushing rivers.

The Alps are so beautiful that many visitors come here to enjoy the lovely views and to climb the mountains. Mountain climbing is sometimes very dangerous. Some of the valleys are filled with ice thicker than your schoolhouse is high. These long tongues of ice are called glaciers. In some glaciers there are deep, narrow cracks. People have been killed by falling into these deep cracks. Sometimes masses of snow slide down the sides of mountains. Villages have been buried under these avalanches.

People who climb the mountains must have guides to show them the safest paths. Trudi's brother is an Alpine guide. In the summer he spends much of his time on the mountains.

The large cities of Switzerland are on the plains and in the lower valleys. They have big stores and factories and parks much like our cities at

home. In some of the factories fine lace and embroidery are made by machines. The women of Switzerland do a good deal of this kind of work by hand in their homes. In some Swiss cities watches, jewelry, toys, and pretty silk ribbons and cloth are made.

Trudi knows little about these large cities. She lives in a little mountain village. Her house is three stories high. During the winter the cows live on the first floor. The hay is stored on the third floor. Trudi and her brothers and sister and her father and mother live on the second floor.

Grass and trees grow all around the village and many bright flowers bloom. Higher on the slopes the trees grow smaller and smaller until, on the high peaks, there are only bare rocks and ice and snow. Can you think why this is so?

There is not enough grass in the valleys to feed the cows in the summer and to save enough for the long cold winter. So in early summer the people drive the cows farther up on the mountains to feed. Trudi goes with her father and brothers. She lives all summer in a little house up in the high pasture lands. She helps make the butter and cheese and spends long hours watching the

cattle to see that they do not stray too far away. While she is out with the cows her fingers are busy knitting warm socks and mittens to keep her feet and hands warm during the winter.

When the cool days of autumn come she helps drive the cattle down to the valley. The people in the village watch the winding paths. They see the cows and their drivers and hear the tinkle of the cow bells. Then everybody stops work and makes a holiday with games, dances, and other good times.

Soon the winter sets in. The cold winds whistle down the valley, and the snow is piled deep around the little houses. The boys and girls have great fun skiing and coasting. There is work to be done, too. Trudi's father and brothers sharpen their knives and get out the wood which they have dried. Then they begin to carve the wood into different shapes. They make fierce-looking bears and the little animal called the chamois, which lives in the mountains. It has a pretty head and slender legs. They make boxes, paper-cutters, furniture, statues, and other articles. Many people come from other countries in the summer to visit Switzerland, and they like to buy these things.



TRUDI'S HOME IN THE ALPS MOUNTAINS

Trudi's mother makes many yards of fine lace, which she will sell to the summer visitors. Trudi sits beside her mother and works on lace, too. When she is grown up she will be able to make as lovely things with her hands as her mother does.

We buy a great deal of lace and embroidery from Switzerland. Some of it is made on machines in the big factories in the cities, and some of it is made by hand. Should you like to have some that little Trudi made in her mountain home?

SOME NEIGHBORS WHO LIVE ON THE ROOF OF THE WORLD

Our next trip will take us to the "Roof of the World" in Asia. The roof of your house is its highest part. So the Roof of the World is the very highest part of the earth. You would have to go up in an airplane more than five miles before you could see below you the peak of the highest mountain here.

These high mountains are called the Himalayas. The name means the home of the snow. Do you think that this is a good name for them?

Just north of the Himalaya Mountains is the country of Tibet. This is a high plateau with mountains all around it. Some parts of the plateau are higher than the highest mountain top in our country.

You see from the picture that the people of Tibet look different from our friends at home. They belong to the yellow race, and the kind of country they live in does not help them to keep clean. They have very little water to use. In some places it has to be carried long distances. Then, too, Tibet is so high that it is always cool

or cold there. If you had no warm house, no bathroom, and very little water to use, and the weather



A FAMILY IN TIBET

Tibet is a part of China, and the people belong to the same race as the Chinese. They look somewhat like them. Don't you think so?

was always cold, do you think that you would be likely to wash yourself very often?

Because there is so little water in parts of Tibet, some of the people lead wandering lives. They pitch their tents near a place where there is water

and grass for their sheep and other animals. When the water dries up they move to another place.

In other parts of the country the people live in houses made of sun-dried bricks. They have small



YAKS FROM TIBET

Notice what thick, warm coats these yaks have. They need them, for Tibet is a cold country. In what ways are the yaks useful to the people who live in Tibet?

gardens where a little barley and a few vegetables grow, but they depend for most of their food on the animals which they raise.

If you visited a village in Tibet, you might find very few men at home. Some are off tending the

sheep and goats from which the people get wool, skins, meat, and milk. Others are hunting wild animals for their furs. A little gray-brown deer which lives on the mountains has in its body a sac of perfume called musk. Hunters kill the deer to get the musk. They sell it to traders from other countries. Did you ever smell this perfume or eat musk lozenges?

Still other men spend their time driving heavily loaded ponies and sheep and yaks over the rough mountain trails to the border of the country. Here they meet traders from other countries and exchange goods with them.

The yak is the best friend of the people in Tibet. See what a warm woolly coat it has! Mrs. Tibetan weaves its long hair into a coarse, heavy cloth. This makes a good cover for the tent. She cooks the flesh of the yak and makes butter and cheese from its milk.

The yak carries heavy loads over the steep mountain paths. Mr. Tibetan would find it as hard to get along without his yaks to help him as Pedro's father would without his llamas.

OUALDO, THE ETHIOPIAN BOY

Oualdo lives far away on the highland of Africa. The name of his country is Ethiopia. Can you pronounce this long word?

There is only one railroad in Ethiopia. Everywhere else in the country people have to walk or go on horseback or muleback. In the hotter parts of the country they use camels.

We must take a guide and some hunters to get to Oualdo's home, for he lives a long way from the railroad. Off in the jungles there are lions and leopards and other wild animals. In some parts of Ethiopia elephants live. And see, off there in the distance some antelopes are feeding.

Ever since we landed on the coast of Africa we have been steadily climbing. We have left behind in the lower, hotter lands the fields of cotton and sugar cane, the coffee trees, and the figs and olives. Here on the cooler, higher plains we see many cattle feeding, and still higher there are flocks of sheep and goats.

Here we are at the village where Oualdo lives. What a queer place it is! It looks like a group of giant toadstools. The houses are round and

are built of sticks plastered with mud which has hardened in the hot sun. The roofs of the houses



OUALDO'S HOME IN ETHIOPIA

are made of sticks which are covered with long grass. We call these thatched roofs.

In Oualdo's house there are no windows and only one small door. The fire is built on the ground in the center of the hut, and most of the smoke stays inside. Should you like this?

When Oualdo eats, he sits cross-legged on the floor. His bread is round flat cakes. He dips one into the dish in front of him and scoops up some of the stew. When he eats meat he puts one end of a long strip into his mouth. Then he takes a sharp knife and cuts it off close to his face. Shouldn't you be afraid that you might cut off your nose?

Some of the women are working in the little garden patches where grain and vegetables are growing. The handles of their hoes are so short that the women bend low over the ground as they work.

See the beehives in the trees. The people will sell the beeswax and make a drink of the honey. The sheep and goats are feeding in the pastures. At night the boys will drive them into the village, where wild animals cannot get them.

Many men in Ethiopia are soldiers. Oualdo's father likes to ride about with his gun and sword better than to work. Oualdo may be a soldier, too, when he grows up.

When we read about the homes of our world neighbors, we must not forget that our homes and our manners would seem just as strange to them as theirs do to us. What are some of the things in your town which would seem strange to Oualdo?

WHAT WE SAW ON THE HIGHLANDS

What people have we visited who live in highland regions? In what continents do they live? Describe one of their homes and let the class guess whose it is.

What kinds of work do the people in highland regions do? What animals live there? What kind of weather did we find there? Did we find big cities in the highlands?

We have finished our trips over the great highlands of the world. We have visited cattle ranches and found flocks of sheep, goats, and alpacas feeding in the mountain pastures. We have seen loaded llamas and yaks carrying goods for their masters. We have heard of the treasures which are stored away in the earth, and have read of tin, copper, gold, and silver mines.

We have seen volcanoes and heard stories of their terrible eruptions and of the earthquakes which have destroyed cities and towns.

In our highland trips we have seen no very large farms of grain and fruit and vegetables. Most of the people raise animals of some kind. Their skins and thick coats, their milk and flesh, and their strength and sure-footedness are all very useful to the people who own them.

We have seen no very large cities on the highlands with busy mills and factories, or great railroad stations with dozens of trains entering and leaving every day. There were few railroads among the mountains, and in many places we made trips on horseback or tramped long distances between villages.

Most of the time we wore our thick coats and sweaters. Can you shut your eyes and see the bare, rocky slopes and the snow on the tops of the high peaks? Do you remember how cold it was when we visited Mr. and Mrs. Tibetan on the Roof of the World and how the water froze nearly every night around Pedro's home in the Andes Mountains?

Now we are going to visit some people who live on the great low plains of the world. We shall find things there very different from what they are on the highlands, and we shall see many interesting sights.

Let us pack our trunks at once so that we may be ready to begin our travels over the plains.

JUAN'S FARM ON THE PLAINS OF SOUTH AMERICA

Here we are again in South America, but in a part which is very different from the cold highland where Pedro lives. We are going to visit Juan, who lives on the great plains of Argentina. The land is as level as a table here. There are no hills or mountains in sight. If we travel west far enough we can see the white tops of the Andes Mountains.

Great rivers flow slowly through the plain. The steamer which brought us to Argentina stopped at the mouth of one of these rivers. We landed at the city of Buenos Aires. It is the largest city in all South America. It has fine wide streets, splendid buildings, beautiful parks, and a big harbor, where many ships come. As we travel over the plain to Juan's home we shall find many things with which to load the vessels.

See, the train is running between great fields of wheat! The grain is ripe, and it rises and falls in the breeze like the waves of the ocean. The farms are large, and the big harvesting machines are like those which we saw in our own country. Some of them were made in the United States.

Now we are riding between large fields of corn. How tall the stalks are! You could play hide and seek under the long, rustling leaves.

Soon we come to fields where pretty blue blossoms wave on slender stems. These are flax plants. You remember that your linen handkerchiefs and tablecloths are made from flax.

The farmers on the plains of South America raise flax for its seeds rather than for its fiber. The seeds contain an oil which is pressed out and used in making paint and varnish.

Juan's home is still farther out on the plain. He is coming to meet us on his pony. He is glad to see us, but he cannot understand what we say. Neither can we understand him, for he speaks the Spanish language. People from Spain discovered these lands in South America and came here to live. So the people here speak their language.

In a few years Juan is going to Europe to study in a famous university there. Then he will learn to speak several languages.

Juan's house is a fine one, as large and beautiful as many in our own country. The family live out here in the country only a few months in the year. Then they go to their city home in Buenos Aires.



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ON THE PLAINS OF ARGENTINA

Long before we get to Juan's ranch we see the cattle, which belong to his father, feeding on the plains

The farmers in this part of South America raise many cattle and sheep. There are few barns on the ranches, for the animals live out of doors all

the year. Some sheep ranches are very lonely places, and for days at a time a shepherd sees no one but the sheep and his dog.

Many men work on the cattle ranch which Juan's father owns. Some are cowboys like those whom we saw on ranches in the United States. Many of the workmen are Italians who have come to South America to live. On the ranch we look into the great sheds where corn, wheat, and flax-seed are stored, and we watch the long arms of the windmill moving in the breeze. If we were near enough we could read on one of its arms the words "Made in the U. S. A." What does this mean?

Now that we have seen so many farms on the plains of South America, we know what the steamers at Buenos Aires carry away to other countries. What do you think some of these things are?

This part of South America is far south of our own home. When the sun is high in our sky, it is low here. So the people of Argentina have their winter when we have summer. Their hot summer days come when we are having winter. Should you like to have Fourth of July come in the winter?

If Fourth of July came in winter, in what season would Christmas come? Should you like this?

SOME FRIENDS ON THE PLAINS OF EUROPE

IN RUSSIA

Now we are going to travel for some time in Europe. We shall make several visits here, for many European people live on the wide plains.

First we shall go to see Olga, who is a Russian girl. Her home is a little one-room house in a small village.

Russia is a big, big country. There are hundreds of villages there and thousands of little houses like Olga's. The villages are often miles apart. Olga has never been far from her home and has never seen any other village but her own.

She never tires of hearing her brother tell stories of the big cities of Moscow and Leningrad, and of the gay life, the fine buildings, and the crowds of people there. Her brother has been to those cities many times, for in the long winter when there is nothing to do on the little farms, he and some of the other young men work in the factories there.

During the long days of summer Olga's father works hard on his farm. During the winter he works in a little shop in the village with three or

four of the older men. They make wooden spokes for wagon wheels. In the next village the men make the hubs, and in still another the rims.



OLGA'S HOME IN RUSSIA

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There are large forests in Russia, and the people use a great deal of wood. They burn it in their big stoves. In dozens of villages the men make articles of wood, such as boxes, bowls, spoons, chairs, tables, and parts of wagons.

The winters are long and cold in Russia, and

for months the snow lies deep on the ground. Should you like to take a sleigh ride over the white plains? The horses prance, the bells jingle,



A RUSSIAN KITCHEN

Notice the round samovar in which the tea is made and the big chimney and stove

and Jack Frost tries very hard to get under the thick fur robes and nip your fingers and toes.

A summer ride over the plains would be very different. Such big fields of wheat as we should

see! And the blue-eyed flax, too! We might almost think that we were back again on the plains of South America.

IN POLAND

From Russia we travel westward over the plain of Poland. Many of the people of Poland are farmers, for the soil is rich and produces good crops. We see many people at work in the fields. Some are cutting the wheat, rye, and oats, and others are digging potatoes and pulling sugar beets.

As we ride along over the wide plain we see Stefan at work in the fields. His father and mother are pulling the long rows of sugar beets, and Stefan is cutting off the green tops. When there is a big pile ready, his father will load them on the cart and take them to the factory in the village. You know what happens to them here, for you read about it on page 46. More beet sugar is made from the sugar beets raised on the plains of Europe than is made anywhere else in the world.

If we visited another part of the country we should find most of the people at work in mines, for Poland is rich in coal and iron and other minerals. There are wonderful salt mines here in

which men have worked for hundreds of years. The roofs and walls of the long tunnels are of solid salt. The miners have carved beautiful



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STEFAN'S HOME IN POLAND

Hanging on the fence you can see bundles of flax. Later Stefan's mother will prepare the fiber, spin it into yarn, and weave the yarn into cloth. Then she will make Stefan some new clothes

statues and other objects from the salt, and these glitter and glisten as the lights fall on them.

Poland is a very old country. People were living and working in some of its cities long before Christopher Columbus discovered America. All

the countries in Europe are older than ours. The United States is only a child among nations. You boys and girls are going to be the men and women who will help our country to grow up as it should.

The great city of Warsaw in Poland was more than two hundred years old when Columbus discovered the continent we live in. In parts of the city there are old buildings, narrow, crooked streets, and interesting market places, all very much as they were hundreds of years ago. In other parts of Warsaw there are great mills and factories, wide streets, and beautiful parks such as we have in the cities in the United States.

IN GERMANY

West of Poland is Germany, where little Berta lives. Berta's father thinks that there are no better farms anywhere in the world than on the plain of Germany. He tells Berta that on this rich land more sugar beets have been raised than in any other country. He tells her, too, about the grain-fields and the great crops of potatoes and other vegetables which the German people raise.

Berta's father once owned a farm on the low plains of Germany near the sea. He kept cows

which gave him plenty of rich milk, and Berta's mother made butter and cheese to sell.

In the evening Berta likes to climb on her father's knee and listen to the stories about the part of Germany where her uncle and cousins live. It is different there from anything that Berta has ever seen. Her uncle lives near the river Rhine. Berta never quite knows which she likes better, the tales of the old castles on the Rhine and the robber barons and lovely princesses who once lived in them, or the stories about the deep mines and the big cities along the river and the factories so close together that the air is always smoky and dirty. Which stories should you like better?

The farm where Berta lives is near the great city of Berlin. Her father raises fruits and vegetables and carries them to the city markets. Berta likes to go to market with him and watch the people buying and selling.

One day Berta's father took her to a very different part of Berlin. Here the streets were very wide and clean and lined with lovely trees. They went into a beautiful park where there were merry-go-rounds, and wild animals in cages. Children



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FARMING ON THE GERMAN PLAIN

The farmers on the plain of Germany know how to make the soil yield good crops. See how nicely the land is cared for

sailed on the lakes in pretty boats, and ladies and gentlemen rode horseback through the shady paths.

Berta never forgot this trip, and she hopes that her father will take her again to visit the park.

IN HOLLAND

To get to the house of Jan and Mina, the Dutch twins, we shall sail up this narrow canal between the flat, green fields. It will take us to their very doorstep. See, there is Mina ready to greet us.

Jan is out milking the cows. Let us go and watch him. All the cows are black-and-white. How clean they are! They look as if they were washed every day. They have just come home from the green meadows. They have had plenty of grass, and they give rich milk. Jan's mother shows us some cheeses which she has made from the milk. They are round balls. Some are yellow, and some have been colored red on the outside. Tomorrow she will take them to the cheese market and sell them.

Holland is a strange country. It is lower than the level of the sea. Then why doesn't the water flow in and flood the country, you ask. It would if the people had not built strong walls, called dikes, to keep it out. They have built many canals to drain the land, and windmills to pump out the water and grind the grain.

Mina and Jan love the winter. Then the canals

are frozen over, and they can skate on them. Once they skated so far that they caught a glimpse in the distance of the big city of Rotterdam in



ON THE PLAIN OF HOLLAND

How level the land is around Jan's home. Most of Holland is like this. See the cows which Jan has to milk every day. Why are there many canals and windmills in Holland?

Holland. Rotterdam is on the river Rhine, for the Rhine flows through both Germany and Holland.

Most of the boys and girls in Holland are fine skaters. Should you like to race with them?

Ask your teacher if she will read you the story called "The Leak in the Dike," by Phœbe Cary. It tells about a brave boy who stopped a leak in the dike and saved Holland from the ocean.



JEF'S SISTER AND HIS MILK CART

IN BELGIUM

Here comes Jef's dog cart. He is taking the milk to town. How shiny his cans are, and how well the dog pulls the load!

Jef is going to town with his sister today. His father is busy in the flax fields. He is pulling the flax and tying it up in bunches. He will put these

to soak in the little river which flows by his farm. The soaking rots the woody part of the stem away from the fiber inside.

The fiber will be cleaned and combed in the factories in the big cities. Then it will be spun into thread and woven into cloth.

Some of the best linen in the world comes from Belgium. The people in Ireland and France also make much fine linen. Perhaps your mother has some linen which came from one of these countries.

IN FRANCE

Ever since we started on our visit to our neighbors on the plains of Europe, we have been traveling westward. We rode through Russia, Poland, Germany, Holland, and Belgium. Now we have come to France. La Belle France, Marie calls it. This means Beautiful France. Marie loves her country and thinks that it is the most beautiful one on earth. Do you think that about your country?

France has lovely mountains, green valleys with winding rivers that connect all parts of the country, and rich plains covered with fine farms and splendid cities. It has deep forests so clean and well



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MARIE'S HOME IN FRANCE

Here are Marie and all the family, even the cow and calf, having their picture taken. How is Marie's home different from yours?

cared for that they look like parks. The people gather up the twigs and chips and burn them in their stoves. They plant more trees than they cut down, and they do not cut the young, growing trees. This is the way to keep good forests.

Marie's father owns a farm on one of the wide plains in France. It is a small farm, but he raises good crops on it. Marie does not live on the farm. All the farmers live in the village, and go out two or three miles every morning to their work in the fields, where the wheat and flax and sugar beets are growing. Marie and her mother like to go out and work in the fields, too.

Marie's mother is a careful housekeeper. She keeps the little home neat and clean. She is a good cook and makes soups and stews and salads and other foods out of things that cost very little. It is partly because French women are so careful and thrifty that French farmers live so comfortably.

In other parts of France there are very different kinds of farms. Marie once made a long visit with her uncle. He owns a big vineyard. There are thousands of little grapevines growing in it. He and his sons cut the vines back and tie them to

stakes not as tall as you are. Marie helped to pick the grapes and watched while the juice was pressed out and made into wine. The French people make a great deal of wine from the grapes which they raise in their vineyards, and the people drink it with their meals as we do milk and water.

In the southern part of France Marie has a cousin who raises silkworms and sells the cocoons. The raw silk fiber which is unwound from them is manufactured into silk thread and cloth and ribbons. France buys a great deal of raw silk from other countries. In her great cities thousands of people work in silk factories, and many spin and weave in their own homes.

In Paris we can see some of the beautiful things which are made of silk. Marie has visited this wonderful city and shows us many interesting places.

What splendid shops there are and what beautiful things are shown in the windows! Some of them are all a-glitter with diamonds and other gems set in jewelry. Others are filled with silks and dresses and hats. Paris is noted all over the world for these things. Buyers from the big stores in our large cities go every year to Paris to see the styles and to buy things for their customers.

The stores are not the only beautiful things in Paris. We love to ride on the wide boulevards, look at the lovely gardens, and wander through the shady parks. Marie shows us some of the famous paintings and statues in the art galleries. She takes us to the top of the Eiffel Tower to see the city below us and the river winding through it. We go into some of the famous churches and other buildings.

Now we are so tired that we can go about no longer, so we sit down at a sidewalk café and have some lemonade. All around are people drinking coffee and wine while they rest, chat with friends, or watch the crowds in the streets.

Marie loves the beautiful city of Paris, as all French people do. But she loves, too, her quiet little village, where the birds sing in the trees, and her father's farm, where green things grow and blossom.

Name all the children we have visited on the plains of Europe. In what country did each one live? Of what large cities have we read?

VANIA'S HOME ON THE SIBERIAN PLAIN

Now we are going to the great plain of Siberia in Asia. Vania lives there. He is a cousin of Olga, and his father and mother used to live in Olga's village in Russia. They were very, very poor. They had to pay much money in taxes, and they had only a small piece of land to plant. What they could raise on it was hardly enough to keep them through the long cold winter. So they decided to move to Siberia, a big country far to the east of their old home. Several of their neighbors decided to move to Siberia too. So the little company started.

Vania was only a baby then and slept most of the time, so he did not know that he was riding on the very longest railroad in the world. It runs straight as a yardstick for miles and miles on the level plain. For long distances not a hill is to be seen.

When the family reached the place where they were to live, Vania's father built a house. This did not take very long, as it had only two rooms. In their old home in Russia there was only one room, but here in Siberia things were to be better.

Vania is very happy in his new home. His father has a good farm and some cows which give rich milk. He carries the milk to the creamery in the village. All the farmers take their milk there.



ON THE PLAIN OF SIBERIA

Vania's father is plowing, and Vania thinks he is helping. What makes the horse look queer to us?

Machines separate the cream from the milk, and then it is made into butter in great churns.

Every morning Vania watches for the smoke of the butter train. Soon it comes rumbling by, a long train of white cars filled with butter from hundreds of villages. The train travels westward

over the plain until it reaches a city in Europe. Here the butter is unloaded and sent to other cities. Much of it goes to London. Have you read stories or seen pictures of this big city? It used to be the largest city in the world. Now New York in our country has more people than London.

The farmers in Siberia raise grain—wheat, barley, rye, and oats—on their farms. Some of the wandering tribes in the more unsettled parts have flocks of sheep and goats. In the far north the natives keep many reindeer.

In parts of Siberia, far away from where Vania lives, there are hills and mountains. Here there are mines where men get coal and gold.

The forests of Siberia stretch for many miles. In villages near the woods the men are away from home much of the time hunting and trapping the wolf, the sable, the fox, the marten, the ermine, and the squirrel. Which of these furs have you seen?

HOW THE RIVER NILE HELPS ALI

Today we are going to visit Ali, who lives on the flood plain of the river Nile. This great river is in Egypt, a land far away to the east across the great ocean. Point in the direction of Ali's home.

Egypt is a part of the Sahara Desert. Very little rain falls there, and the sun shines hot on the dry earth. How do you suppose that Ali is able to live in such a land? I will tell you.

From the mountains far to the south of Egypt many streams rush swiftly down the steep slopes. One after another they join together and thus form the great river Nile.

In these mountains it rains every day for weeks at a time. The rivers grow fuller and fuller. Soon they begin to pour their floods into the Nile. Then its waters rise higher and higher until they overflow the banks and spread out over the land.

Now Ali and all the people in his village and in the other villages around are very happy. They watch the muddy river spread out farther and farther over the dry fields. They know that the water will soak the ground and leave on it the rich soil that it is carrying.



ON THE BANKS OF THE RIVER NILE

At last a day comes when Ali's father says: "The rains in the south are over. The river is beginning to lower. Soon we can plant our corn and vegetables and cotton." After a few weeks Ali and his father begin the planting. The ground is wet and the sun hot. It is not long before the seeds begin to grow, and some of them do not need any more water.

Cotton is a crop which must be watered from time to time. While it is growing, Ali and his father work many long, hot days beside the river. They lift the water in skin buckets and pour it into ditches which they have dug. Through these ditches the water runs to the cotton fields.

At one place men have built a big dam across the river Nile. In flood time the water piles up behind the dam in a great pond or reservoir. When the plants are thirsty, water is let out of the reservoir. Some of it goes to parts of Egypt which were once desert land. Now large crops grow there.

Egypt is an old land. For thousands of years the floods of the Nile have made it possible for people to live in this part of the desert. Ali could not live without the Nile. It is his best friend.

WHAT WE SAW ON THE PLAINS

What countries on the plains have we visited? What kinds of farms have we seen? What was raised on the farms which we passed on our way to Juan's ranch in South America? In what country were these farms? Who lives in a village on the Russian plain miles away from other villages? What did we find Stefan, the Polish boy, doing? How did we get to the home of the Dutch twins? When Jan went to town with his dog team, what was his father doing at home?

Of what big cities have we read? Where are they?

We have been traveling over the great plains of South America, Europe, and Asia, and on the flood plain of the river Nile in Africa. We found many of our world neighbors living on farms and raising crops which help to feed and clothe the people in cities and towns.

We heard of large cities on the plains with long trains in their stations. We have visited other large cities on the seacoast, with great ships in their harbors. The ships and trains bring from lands far away many things which the people need. They carry away to distant countries the goods which have been made in the mills and factories

in the cities, and the many useful products which have come from the farms.

How different are the homes of our friends on the plains from those which we visited on the highlands! Most of the highland people depend for their food and clothing on the animals which they raise. Many of the men spend their time tending the flocks and herds or working in mines. It is too rough and stony and dry and cold on the highlands for the people to have great farms and raise grain and vegetables and fiber plants.

Should you rather live with one of our world neighbors in his highland home or with some of our friends on the plains? Which of these places should you choose for a real visit?

NAKLA'S LIFE IN THE DESERT

Should you like to live in a tent as Nakla does? She does not need a house like yours to protect her from the wet and cold. On the great Sahara Desert, where she lives, the days are hot and rain seldom, if ever, comes.

Have you ever moved from one home to another? Can you remember how much work it was and how tired it made your mother? Nakla has moved many times. Her mother does not think that it is very hard work. They roll up the rugs, take down the poles that hold up the tent, and fold up the heavy cloth of which it is made. There are not many clothes to pack, for they have very few except those which they are wearing.

Nakla's father and brothers load the camels. Nakla rides on one, and her mother on another. The men collect the sheep and goats, and off they start for their new home. This happens several times a year.

Why do you suppose that Nakla moves so often? Perhaps you can guess if you remember that she lives on a desert and that her father owns sheep and goats which must have food and water.

Deserts are barren places where little or nothing grows. Some deserts are too cold for plants to grow, and some have no good soil. Some are too dry. It is on this kind of desert that Nakla lives.

Even in deserts where no rain falls there is often a great deal of water under the ground. Sometimes the underground water finds its way out of the ground in springs or little streams. Sometimes men dig or drill wells to get the water.

Where there is water in a desert, trees and grass grow. Such a place is called an oasis. Some oases are small. Some are large and have hundreds of wells and several villages and towns.

The great Sahara Desert is very large. It would more than cover our own great country of the United States. Few people live in the interior of this great desert. It is too barren, and the oases are too far apart. The few wandering people who live here are traders. They travel from one oasis to another buying and selling camels, salt, and dates. Nakla lives near the edge of the desert. Here the oases are nearer together and grass grows around them.

Nakla's father knows where many of the small oases are. He knows the time of year when there

will be water in the wells and green grass around them. The family are going to such an oasis now. They will live there until the water is nearly gone and the grass is brown and withered. Then they will move to another oasis where there is water and green grass for the animals.

So they begin their journey. The hot sun and the motion of the camel makes Nakla sleepy; her little head nods, and soon she is fast asleep, dreaming the hours away.

The camel is the only animal which can make long trips over the desert. No other animal can go so long without food and water. The next time you see a camel in a circus parade, notice the hump on its back. The hump is made of fat. When a camel has a big fat hump, it can go several days without food. It has several stomachs and can store up water so that it does not need to drink for some days. Notice, too, the camel's feet. They are big and flat and do not sink in the sand. For these reasons the camel is used for desert journeys.

Men have finally managed to cross the desert in motor trucks. These go much faster than camels can. Soon, instead of the long, slow caravans of



NAKLA'S HOME IN THE DESERT

camels, trucks will be used to carry the dates, wool, and hides from the oases to the seacoast.

When her camel stops, Nakla wakes from her sleep. Here they are at the new home. It is much like the old one. Nakla is glad to see the palm trees, for she likes the dates which grow on them.

The sun has set now, and the air is much cooler. The tents are soon put up, and the mats spread in front of them. Nakla is glad to change her seat on the camel for one on the mat.

How hungry she is! How good the stew which is cooking over the open fire smells! Her mother gives her a little of it for supper. She has some fresh dates for dessert and some goat's milk to drink.

While the family have been eating, the darkness has fallen and the stars have come out. How they glitter in the clear sky! The silvery moon shines over the waving palms and the yellow sands.

Nakla's eyes are heavy and her little head is nodding. Her mother carries her into the tent and lays her on her bed of rugs. Good night, little desert sister. May you sleep sweetly in your tent under the twinkling stars and the silver moon.

IN THE WET LANDS OF THE AMAZON VALLEY

Little Nakla lives in a part of the world where it almost never rains. Today we are going to a place where for weeks at a time it rains nearly every day. This is in the valley of the Amazon River in South America.

Every morning the sun shines brightly, but before the day is over the clouds cover the sky and the rain comes pouring down. Soon the shower is over and the sun shines hot again. The water drips from the trees, and steam rises from the soaked ground.

Each day the showers are longer. The great Amazon River rises higher and higher. Soon the banks disappear. The floods spread out over the land, and the trees seem to be growing out of the water.

After a few weeks the showers are shorter and come less often. The water disappears from the land, and the banks of the river show once more.

The air is still hot and damp. In places the forest is so thick that no sunshine can get through to dry the ground. Your knife will rust in a

day or two, and your gloves and shoes and other leather things will become moldy.

It is very hot here, for this part of the country of Brazil is almost under the equator. The heat and the dampness make things grow very fast and very large. The vines and creepers have stems as large as a man's arm. They climb up from the ground, hang down from the trees, and criss-cross between them. The tangle is so thick that you cannot get through unless someone goes before you and chops a path with an ax.

Now we come to a clearing in the forest. There is a little hut near the bank of the river. In front of it a man has built a fire on the ground and is holding something on a pole in the thick smoke. You have guessed what he is doing, for you read about him on page 106. He is a rubber gatherer. He has been out in the forest gathering the milky juice of the rubber tree, and now he is smoking it to harden it.

Besides the rubber tree many other useful trees grow in the forests of the Amazon valley. The mahogany tree is one of these. What have you seen which was made of mahogany? The big three-cornered Brazil nuts come from trees which

grow in these forests. Have you ever eaten any of these nuts? See if you can find any in a store.



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ON THE BANKS OF THE AMAZON RIVER

These are Indians who live in the valley of the Amazon River. Why do you suppose so few people live in this region? The Indian in the picture is aiming at something with his bow and arrow. What do you think it may be?

Far away from the river, in the part of Brazil where it is cooler and drier, there are great

coffee plantations. Probably the coffee which your mother buys comes from Brazil. In other parts of the country there are large cattle ranches.

Only a few people live in the wet lowlands near the Amazon River. Most of them are negroes and Indians. Some gather rubber for the white traders. Many of the Indians do little except spear fish and gather fruit for food.

Chattering monkeys and bright-colored parrots live in the forest. You might not like so well the big snakes and crocodiles which make their homes here.

Where should you rather live, with Nakla on the desert where it almost never rains, or in the Amazon valley where it rains so much?

WITH AHTITAH IN ESKIMO LAND

Ahtitah's home is in the Northland where Jack Frost and the North Wind live. She likes the cold and the snow. Notice in the picture on page 178 how fat and happy she and her little friends look.

It is summer now in the Northland, and we enjoy picking the buttercups and violets and dandelions. The sun is not so hot as it is where we live, but it rises much earlier and sets much later. For some weeks it does not set at all. Should you like such long days? You could see to read and play late in the evening, but you would have to go to bed when the sun was still shining.

Ahtitah's father and mother are very busy now catching and drying fish for the family and dogs to eat through the long, cold winter. They catch deer also and dry and smoke the flesh. Ahtitah likes the eggs of the wild duck which her father finds along the shore.

Ahtitah lives in a tent made from the skins of seals and held up by big whalebones. Why does she not live in a cloth tent held up by wooden poles? Why does her father make the sledge on which she rides in winter of bones instead of wood?

Now the weather is getting colder. Each day the sun is lower in the sky. Soon it peeps up over the horizon for only a few hours each day. Later Ahtitah will not see it at all for some weeks. It



AHTITAH AND HER FRIENDS

will not be very dark though, for during much of that time the sun is not far below the horizon.

It has snowed often for weeks. Everything is covered deep with ice and snow. Whenever Ahtitah goes out to walk she puts on her snowshoes. When she rides she goes in her dog sledge.

It is so cold that the family have moved into

their winter home. This is built of earth and stone. When off on long hunting trips Ahtitah's father builds a round hut of ice. On the seat of ice inside,



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AHTITAH'S MOTHER AT WORK

Ahtitah's father has caught some fish, and in the picture you can see her mother cleaning it and hanging it up to dry. They will need this to eat in the long, cold winter

Ahtitah's mother spreads the skins of bears and seals. Then she lights a fire to make the house warmer. The stove is a stone bowl with seal oil in it. The wick is made of dried moss.

Ahtitah has on her winter clothes now. They are made of skins with the fur left on, and she wears two suits. The inner one has the fur next to her body, and the outer one has the fur on the outside. Her fur clothes are so warm that she does not mind the cold weather. She and her brother like to be out of doors in winter as well as in summer. They harness their dogs to the low sledges and have fine rides over the snow. They play at hunting the seal. Sometimes they slide downhill, shooting with their bows and arrows at marks in the snow.

Ahtitah's father is busy hunting and fishing for the animals which give his family food and clothing. They like the flesh of the whale and the seal. This kind of food helps to keep them warm.

The men make long trips over the snow to catch beavers, foxes, minks, and other animals which have thick, soft fur. Ahtitah's father sells the skins to the trader. In exchange for them he may get some thread and needles for Ahtitah's mother to sew with. They are better than bone needles. He may get a hatchet to help him in his work, or some cloth for Ahtitah's summer dress.

When do you think you should like to visit Ahtitah, in the winter or in the summer?

SOME OF OUR NEIGHBORS OF THE BLACK RACE IN AFRICA

On this trip we are going to the hot part of the world to visit some of our negro neighbors who live in Central Africa. We cross the Atlantic Ocean and then sail up the great Congo River. Where there are rapids and falls we leave the boat and go by train until we get to smooth water again. Then we take another boat.

We sail for days through deep forests. In the forest on each side of the river the trees and vines are so thick that the sun's rays cannot get through. If we left the steamer, we should need men with hatchets to cut a path just as we did in the Amazon valley.

It rains a good deal in this part of Africa. Sometimes the rivers are flooded and spread out in great lakes under the trees. The water drips from the leaves. Mosquitoes and flies buzz and sting.

Now we leave the boat and walk through a dim forest path to the village where Moke lives. What a queer place it is! The houses are round. The roofs are made of leaves and grass and look like the tops of haystacks. The walls and floors are

made of mud and clay pounded until they are hard and smooth. The stove is a hole in the floor.



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MOKE'S SISTER AND TWO FRIENDS

There are no roads, no churches, and no schools in the village. Moke never saw a book, but he

can tell us a good deal about the plants and trees and animals in the country where he lives.

He shows us the banana trees which grow around the village. He climbs a tree and gets some fruit for us to eat. Moke eats bananas raw as we do, but he likes them better roasted in the hot ashes or boiled.

Moke likes to catch fish for his dinner in the stream near the village. Sometimes his father kills an antelope or a monkey. Then the family have a feast. Sometimes the children catch big ants and locusts and cook them in the ashes. They taste as good to them as roasted chestnuts or toasted marshmallows do to us.

When the men of the village kill an elephant everyone is happy. They will have many feasts of elephant meat, and the trader down the river will pay a good price for the long ivory tusks.

In her little garden Moke's mother raises peanuts, corn, beans, and sweet potatoes. The manioc plant grows in nearly all the gardens. The women wash and dry the manioc root and grind it for flour. In some countries the root is used to make tapioca. Do you like tapioca pudding?

Growing round the village there are tall palm

trees which bear big bunches of nuts. These nuts and the pulp which covers them contain a great deal of oil. The men gather the nuts, and the women cook the pulp to get the oil. They sell this to the trader. He also buys the kernels of the nuts. These are sent to Europe and crushed for the oil which they contain.

What do you suppose that Moke's father gets from the trader for his palm nuts and palm oil, his peanuts and ivory? Perhaps he will buy some bright-colored cloth for his wife to wind about her for a dress. For himself he would like a new knife to cut off the bunches of palm nuts. Moke's sister will clap her hands with joy at some pretty beads or some wire to wind round and round her neck and arms and ankles. Then she thinks that she will look as nice as her friends do in the picture on page 182.

COAST-LAND NEIGHBORS IN NORWAY

We are going to visit some friends who live in Norway, on the other side of the Atlantic Ocean. They live as far north as Ahtitah does, but they do not have such cold weather. I will tell you why.

In the Atlantic Ocean there is a current of warm water called the Gulf Stream. Did you ever hear of it? It comes from the hot part of the earth near the equator. The water in the Gulf Stream warms the air over it, and the winds blow the warmed air toward Erik's home in Norway.

Norway is a beautiful country. It has many mountains whose slopes are covered with deep forests. Waterfalls splash in the sunshine, and hundreds of lakes lie in the valleys.

The coast of Norway is very uneven. The ocean waters fill long, deep inlets called fiords which run far into the land. Steep cliffs rise on either side. Behind the cliffs are high mountains.

There is very little space between the mountains and the sea. You see in the picture that the town where Erik lives is crowded on a narrow plain close to the water.

What do you suppose Erik's father does for a

living? He cannot have a large farm, for there is little land fit for planting. There are no big pastures of green grass, so he cannot raise many cattle



THE VILLAGE IN NORWAY WHERE ERIK LIVES

How does this village in Norway differ from the town where you live?

or sheep. There is one thing that he can do because the water is so near. He can go fishing. Most of the men in the village are fishermen.

Off the coast of Norway there are many islands. Small fish live in the water round them, and many

cod and other large fish come here to feed on the small ones. The fishermen catch great numbers of cod. They catch also haddock, flounder, and herring. Have you eaten any of these fish?

As we approach the village where Erik lives we should know that many of the men were fishermen. We see the fishing vessels in the harbor. We notice the salted cod drying on the rocks near the shore, and we try to count the barrels of herring on the wharves.

Some of the men in the village often go far out in the ocean after whales. Erik's father has been many times on whaling trips. He is a brave sailor. He is not afraid of the strong winds and the high waves. When the ocean is very rough, Erik and his mother are glad to see the fishermen come sailing up the fiord. Many of the village people run down to the shore to welcome them home.

WORLD NEIGHBORS WHO LIVE ON ISLANDS

Get ready for a long voyage over the wide Pacific Ocean. In what direction is this ocean from you? Point toward it.

Some of our friends of the yellow race live in Japan. See, Metsu is having a tea party, and she invites us in. We must take off our shoes before we go into the house. This is a Japanese custom, and we should be very impolite if we kept our shoes on.

The house is open so that we can see through to the other side. Isn't it nice to be able to make the whole house into one big room? The doors do not swing open as ours do, but slide back. Some of the outside walls slide back, too. Then the house is like a big piazza.

The floors are covered with clean straw matting. Where are the chairs and beds and tables? Metsu does not use such things. She sits on the floor and eats from a little table, such as you see in the picture. It is no higher than a footstool. She sleeps on thick quilts on the floor, with her head on a wooden block.

The great ocean lies all around the islands

where the Japanese live. Many of the men whose homes are near the shore are fishermen like Erik's father in Norway. Some fish in the seas around, and some go far away on long ocean voyages.



METSU IS HAVING A TEA PARTY

Metsu lives on a little farm away from the water. Most of the farms in Japan are very small. There are so many people in the little country, and so much of the land is hilly and rocky, that there is not much room for big, level farms.

Off there in the valley the men are working in the rice fields. Some are plowing with water buffaloes. Both men and animals are walking in mud and water. Other workers are setting out rice plants.

Rice does not grow well unless the ground is covered with water. When the grain is ready to harvest, the water is drained off. The people cut and dry the stalks and comb out the seeds. Then they pack the seeds in bags to be carried to the city and sold. Every family is careful to save enough rice to eat until the next harvest.

See the long rows of tea plants on the hillsides. Do you remember about the tea farms around Wang's home in China? Metsu likes to help pick the tea leaves for her father to take to the factory. What is done to them there (see page 42)?

Now Metsu's mother calls her to pick some mulberry leaves for the silkworms. She scatters the tender leaves on the trays where the worms are. How fast they eat them! Soon they will begin to spin their cocoons. When they have finished, there will be many baskets of cocoons to sell. The fine silk fiber will be unwound from the cocoons, spun into thread, and woven into cloth.

The vessels in the harbors of Japanese cities carry silk cloth and thread and fiber to countries across the ocean. A great deal of it comes to the



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JAPANESE FISHERWOMEN

The Japanese catch a great many fish. Why do people who live on islands often catch fish for a living?

United States. We do not raise silkworms here, but we make more silk thread and cloth than any other country. Most of the silk on the shelves in our stores was made in our own cities. Some was made in China and Japan, and some in France.

Do you remember the beautiful silks which we saw in the store windows in Paris (see page 159)?

Japan is so crowded that there is not room for all the people to live on farms. Many live in large cities and work in mills and factories. Most of these cities are on the coast and have splendid harbors. Large steamers carry the things which are manufactured in the cities to other countries and bring back to Japan the things which the people need.

Japan is a beautiful country. It has high mountains and green valleys and pretty rivers and waterfalls. Many flowers bloom there. The chrysanthemum is one of the most beautiful. Do you know this flower? We raise many chrysanthemums in hothouses. Perhaps you have seen Japanese cherry trees in bloom in the early spring. They are very lovely. Japanese boys and girls think that their land is the loveliest and finest on earth. That is the way that girls and boys in every country should feel. What do you think about the United States?

OUR NEIGHBORS IN THE PHILIPPINES

There are many other islands in the Pacific Ocean besides those where the Japanese live. Some of these islands belong to the United States. We are going to visit the group where Pablo lives.

Pablo is a Filipino. He belongs to the brown race. His hair is black and straight and shiny. He goes to school every day and has learned to speak English. He is proud to talk in our language as he takes us around his town.

First we will go out to see the people working in the fields of rice and sugar cane. Pablo cuts off a stalk of the cane and sucks the sweet juice. He likes it as well as you like candy.

Pablo climbs one of the coconut trees around the village and gets a coconut. He breaks it open and gives us some of the sweet, milky water inside. The heavy winds and the storms blow off many of the coconuts, and the men climb the trees and cut off others. They heap them up in great piles in the village. The people tear off the outer husk and then cut them open and dry the white meat in the sun. The dried meat of the coconut is called copra. This contains a very useful oil.



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MANILA HEMP

The men are pulling apart the long stalks. The layers will be scraped to get out the pulp and juice and to separate the fiber from the woody part. The fiber will be cleaned and dried; then it will be twisted into great hanks, baled, and sent all over the world to be made into rope

Pablo helps his father fill his boat with copra and watches him start down the little river to the coast town. There a Chinese merchant will buy



FILIPINO BOYS CLIMBING A COCONUT TREE

the copra and send it to the big city of Manila, where it will be taken to the mill and crushed to press out the oil.

The people who live in parts of Africa and on the islands in the Pacific Ocean prepare a great deal of copra. In some places mills have been built to press out the oil. In other places the copra is loaded on vessels and taken to countries in Europe or brought to the United States. We use millions of pounds of coconut oil every year in making soap, medicines, cold creams, and other things. Perhaps your mother may use a coconut-oil shampoo when she washes your hair.

Those trees over there with the very long leaves are banana trees. Each one has a big bunch of bananas on it. Pablo often has bananas for supper.

Do you like to jump rope? What else have you seen rope used for? The best rope in the world is made from a plant that grows in the Philippine Islands. It looks much like a banana tree, but people call it abaca, or Manila hemp. Rope is made from the long, strong fiber in its stem.

When we come back into the village, Pablo proudly points out the new schoolhouse with our flag and his flag waving above it. He is beginning

to love our flag as much as we do. Many school-houses have been built in the Philippines, and many teachers have gone there from our country. Good schools help to make good men and women.



PABLO'S HOME IN THE PHILIPPINES

How do you like Pablo's home? It is built on posts, to keep it from getting damp. Why do we not build our houses on posts?

As we leave the village, Pablo waves us good-by in front of his home. His house is very different from ours. It rains a good deal in the Philippines, and so the house stands on posts. This helps to keep it dry. It is built of hollow bam-

boo poles covered with palm leaves. The roof is thatched with these leaves so that the rain cannot get through. The floor is made of strips of bamboo. There are wide cracks between them, and the dirt drops through. Should you like a floor like this or do you like the kind which you can sweep?

At Manila we find a large steamer bound for the United States. It is noon when we go on board. If we were at home we should be fast asleep, for it would be about midnight there. The sun lights only half the earth at a time. When it is shining over Pablo's home, our half of the earth is dark. What time is it in your schoolroom now? About what time is it in Pablo's home?

OFF TO AUSTRALIA ON THE OTHER SIDE OF THE WORLD

Australia is another island in the Pacific Ocean. It is about as large as Europe, and we call it a continent. It lies on the other side of the world from us. When we are having day, little Ellen in Australia is fast asleep in bed. Australia is much farther south than our country, and when we are having summer, it is winter there.

Should you like to visit a gold mine or should you rather see a sheep ranch? Australia is famous for both. More sheep live here than in any other part of the world. Ellen's father owns a big sheep ranch. Ellen loves the little lambs and has some for her pets.

Sometimes she watches the men shear the sheep. Her father has so many sheep that he gets a great deal of wool from them. He sends the wool off in big wagons to the railroad station. From there it goes to a city on the coast where it is loaded on ships. These carry the wool halfway round the world to Europe and to the United States. Have you anything on made of wool? Perhaps some of it may have come from Ellen's ranch.

Once Ellen saw a kangaroo. It is a queer-looking animal. Its hind legs are much longer



LITTLE ELLEN FEEDING HER LAMBS

These lambs have lost their mother. Ellen feeds them from a bottle.

The white lamb is eating as if it enjoyed its dinner

than its front ones, and it can jump much farther than you can. Men use the skin of the kangaroo to make leather for bags and belts.

What islands in the Pacific Ocean have we now visited? What group among them belongs



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KANGAROOS IN A CITY PARK

What queer-looking animals kangaroos are. See how short their front legs are and how long their hind legs are. Their hind legs are so strong that they can jump long distances

to the United States? What have we found the people on the islands doing? Which of the islands is so large that we call it a continent? For what two things is this continent noted?

LIFE IN A GREAT CITY

How do you get your mail? your milk? your ice? your bread? Who helps you keep your automobile in order? Who protects your home? Who keeps the roads and sidewalks in repair? Who sees that the street lights are in order so that they burn every night? Can you always get plenty of water from the faucets in your house? Where does the water come from? Who cares for the water supply in your town or city?

Name all the kinds of work that you can think of which people do in the country; in the city.

We are going to visit New York, the largest city in the whole world. The train takes us into the biggest station which we have ever seen. Crowds of people are getting off the trains which have just come in, and other crowds are boarding trains which will soon pull out of the station.

Now we go out on the streets. How crowded they are! Long lines of automobiles are passing to and fro. Motor busses are filled with people, and other passengers are seated on top. A traffic officer is at every corner. The people do not cross the street until he gives them the signal to do so.

There are so many people that the streets

cannot hold all the trains and cars. Some of them run on tracks built above the streets, and some run underground in tunnels called subways. Some



FIFTH AVENUE IN NEW YORK CITY

© Ewing Galloway

How many lines of cars can you count in the picture? Is the street in front of your schoolhouse wide enough for so many cars side by side?

of the subways are under the streets and some are under the river that runs through the city.

The streets look narrow because the buildings are so tall. Some of them are more than thirty

stories high. How many stories high are the tallest buildings that you have ever seen? One of the very highest buildings is the Woolworth Building.

There are many great apartment houses in New York. Fifty families and more often live in



A VIEW OF THE SUBWAY IN NEW YORK

The picture on page 202 shows you that there is little room in New York streets for electric cars. The subways under the streets and the elevated roads above them carry thousands of passengers every day

one house. Elevators take them up to their rooms. A small elevator, called a dumb waiter, brings up their ice and milk and takes the garbage down to the janitor in the basement.

Our first trip in the city will be to the Zoo. We

watch the bears taking their baths, the elephants eating their hay, and the lions and tigers pacing back and forth. We linger in the monkey house and hurry through the building where the snakes are. We feed the deer with grass and listen to the singing of the birds in the big cages, which are as tall as trees.

At the other end of the city is the Aquarium. Here are fishes of beautiful colors, lazy alligators, and sleek seals swimming and diving.

We spend a long time looking at the shop windows. We see things in them from all parts of the world. There are pearls from distant waters, furs from animals which live in the cold Northland, rugs made in the tents of wandering peoples, and silks, dishes, and jewelry from countries on the other side of the earth.

The ships that bring these things to New York have come from many lands. Others have brought sugar, tea, coffee, cocoa beans, rubber, and cotton. These will be used in the stores and mills and factories of the great city and sent away to other cities.

The vessels at the docks will carry back to the countries from which they came wheat from our

great farms in the West, meat and other animal products from our cattle and sheep ranches, flour from our mills, boots, shoes, cloth, and clothing



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THE STATUE OF LIBERTY

Do you remember our visit to Marie in France? The country of France gave this beautiful statue to the United States as a token of its friendship. At night sailors can see the lighted torch in the uplifted hand for miles out in the harbor

from our factories, and tools and machinery and many other things made of the iron which has been taken out of our mines. What is raised or made in your home town which may be carried on these vessels to people in other lands?

Some of the ships at the wharves are the largest that we have ever seen. One of them is nine hundred feet long. Can you measure this distance in the street near your school and find out how far this great ship would reach?

On an island in the harbor is the famous Statue of Liberty. It stands for our land of liberty. It cheers the hearts of people who have been away from our country and welcomes strangers from other lands.

There are people in New York from nearly every country on earth. Some have come from countries where they never had a chance to make anything of themselves. Others have learned a great deal in the schools of their own country but do not understand our language and our ways.

Are there any people from other countries in your city? Perhaps you can help them to speak and write English and to know what our flag stands for. They can tell you many things about their country which will help you to understand their laws and customs.

WHY PEOPLE'S HOMES AND WORK ARE NOT ALIKE

We have visited people who live on high mountains and in low plains, on deserts where almost no rain falls, and in lands where for weeks at a time it rains nearly every day. Some live on the shores of the ocean, and others on islands surrounded by it. Others live so far away from the ocean that they have never seen it. Some of our world friends live where it is always cool or cold, and others where it is always warm or hot.

What people do for a living, what they eat, what they wear, and what kind of home they have depend on the kind of land they live in. Ahtitah in the Northland likes the fat meat of the whale and seal, and Nakla and Moke in the hot lands like dates and bananas and coconuts. Ahtitah dresses in furs, and Moke wears scarcely any clothes at all.

Many of the people in the highlands work in mines. They raise animals which give them food and help them in their work. Pedro's father on the Andes highlands has his llamas. Mr. and Mrs. Tibetan, near the Roof of the World, own

yaks. The people who live in northern Norway depend on their herds of reindeer.

Erik's father, who lives on the coast of Norway, is a fisherman. So, too, are many of the Japanese, for their islands are surrounded by water.

We have visited many people who live on plains where the level land stretches for miles with no high hills or mountains in sight. Here we found great farms of wheat and corn, cotton, and sugar cane. Feeding on the rich grasses of the plains were the cattle which give us our milk and butter and cheese. Do you remember the black-and-white cows which Jan tended and the round cheeses which his mother made?

More people live on plains than on highlands. On the plains the land is level, the soil rich, and the farmers can raise large crops and get them to market.

Most of the great cities of the world are on the plains and in the valleys. What ones have we seen in our travels? Cities are often built near rivers and lakes and the seacoasts. Ships can reach them easily, bringing things which the people need and carrying away the things which are made in the city and brought in from the country around.

The land on our earth is made up of mountains and valleys and plains and plateaus. To some of these lands Nature gives rich soil, plenty of rain, and warm sunshine. In others she scrapes off the rich soil, withholds her raindrops, and sends many cold days and nights. What Nature does to the earth makes a great difference in the way people live and in the kind of work they do.

What friends have we visited on highlands and plateaus? How did they dress? What kind of weather did they have? Did they have large farms and raise big crops?

What people who live on plains have we visited? What did they do for a living? What did they do with the crops which they raised on their farms?

Why are many of the people who live on coast lands and islands fishermen? What ones have we visited?

Why should there be more farms on plains than on mountains? Why are most of our big cities on plains? Why should there be more cities near the coast than far away from the ocean?

In what kind of region do you live? What do many people in your state do for a living? Why do they do this kind of work?

THE FIVE RACES

In visiting our world neighbors we have met people of different colors and races.

Pedro on the Andes Mountains in South America is an Indian. He belongs to the red race. His skin is a reddish brown, and his hair is straight and black.

More Indians live in South America than in any other continent. Some live in the Andes Mountains and work in mines or drive llama trains for the white men. Other tribes live in the forests of the Amazon valley. These Indians wear few clothes, spear fish, and kill animals for food with bows and arrows.

When white men first came to our country they found many Indians here. They lived in wigwams, had little patches of corn, and spent much of their time in fishing and hunting. Most of the Indians in our country now live on land which the government has set aside for them. We call these lands reservations.

In the big country of Canada, north of us, many Indians live in and near the forests. They hunt and fish, and trap wild animals for their furs.

Ahtitah, the little Eskimo girl, who lives in the north, belongs to the yellow race. So do the boys



SOME YOUNG INDIAN BRAVES

These boys belong to the red race. They do not wear clothes like this all the time, but they like to dress up sometimes as well as you do.

Should you like a suit like one of these ?

and girls in Japan and China who pick the tea leaves and feed the silkworms. Their skin is darker than ours and has a yellow tint. They have



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TWO CHINESE BOYS

These two boys of the yellow race are world neighbors of ours.
They live far across the Pacific Ocean

straight black hair and slanting eyes. There are more yellow people on earth than any other race. From them we get many things which we need.



CHILDREN OF THE PHILIPPINE ISLANDS

These are children of the brown race. They live on islands which belong to the United States. What language do you suppose is used in this classroom?

Pablo, our Filipino friend, belongs to the brown race. Most of the brown-skinned people live on islands in the Pacific Ocean. The soil of these



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WORLD NEIGHBORS BELONGING TO THE BLACK RACE

This family lives in Africa. You can tell from their dress that they live in a hot land. Should you like to visit them and see their home?

islands is rich, and the people raise rice, sugar cane, spices, coffee, and many fruits. They prepare much copra from coconuts.

In Africa we saw many negroes. They had black skins and black, woolly hair. More people of the black race live in Africa than in any other



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A MEMBER OF THE WHITE RACE

This little neighbor belongs to the white race. How many races are there? What ones have you seen?

continent. We depend on them for the many products which we get from the hot parts of that continent.

Most of the people in Europe and America belong to the white race. The white people live mostly in the parts of the earth between the hot belt and the cold belt. In these regions it is not too hot to work. Neither is it so cold that one has to work all the time just to keep from freezing and starving. This is one of the reasons why people of the white race have been able to build great cities and roads and railroads, to have fine farms and big mills and factories, and to buy and sell all over the world.

The black, yellow, red, brown, and white races are world neighbors. The work of other races provides us with many things which we need, such as rubber, sugar, rice, silk, tea, coffee, and cocoa. These races need our help in starting schools, opening mines, working farms, and building good roads and railroads and bridges. They need also the cloth, tools, and machinery which we make in our factories. Where could we sell all these things if it were not for the millions of people who live in other parts of the world?

We need the help of all our world neighbors, and they need us. We cannot help much or get help from them unless we know them. This is one reason why we like to learn all we can about their lands, their homes, and their work.

To what race do you belong? What other races are there? Can you find any pictures of people of other races and their homes to mount on cardboard?

Face the north. What people live in this direction? Face the south. What races live in South America? Face the east. What race lives in China and Japan? What race lives still farther east, in the Philippine Islands? Turn to the south-east. What people live in the great continent of Africa, which you are facing?

How do your neighbors in your home town help you? How do your neighbors in other parts of your country help you? How do your neighbors in other countries help you?

III. OUR OWN COUNTRY

AN AIRPLANE TRIP FROM BOSTON TO GALVESTON

We have traveled in many lands and have seen our world neighbors at work and at play. Now let us take some trips in and around our own country and see what the people are doing here.

First we will go in an airplane around this big country of ours. We shall travel much faster than we could in a ship or a train, and shall stop at only a few places.

Our airplane is awaiting us at Boston. This is one of the old cities in the United States. Some of its crooked streets, we are told, were once cowpaths through the pastures. You will enjoy seeing some of its old buildings. Faneuil Hall, the birthplace of Liberty, is one of them. Another is the church where the lanterns were hung to warn Paul Revere of the coming of the British soldiers. Have you read Longfellow's poem which tells about Paul Revere's famous ride?



THE BEAUTY OF THE MOUNTAINS

You can climb Bunker Hill Monument and look down over the sea of houses below you. Can you imagine how different the villages and the people



FISHING SCHOONERS AT THE PIER IN BOSTON

Men go out in these fine fishing schooners and bring back thousands of pounds of excellent food fish. Boston is one of the largest fish markets in the world

in the streets must have looked in 1775, when the battle of Bunker Hill was fought? What can you see from the monument that the people who lived at the time of the battle never saw?

Boston is noted for other things besides its history. It has the greatest fish pier, the biggest shoe factory, and the largest cocoa manufactory



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FEEDING THE PIGEONS ON BOSTON COMMON

Hundreds of pigeons live on and near the Common. They are very tame. Many people like to feed them as this little girl is doing.

Should you like to have them eat corn out of your hand?

in the world. Its buildings for storing wool are the largest in America. It has sugar refineries, factories for making rubber boots and shoes, and

many printing and publishing houses. This book was published by a firm in Boston.

Now we will take our airplane and fly southward. Soon we see below us the city of New York. It is the largest city in the whole world. Flying low over its wonderful harbor, we see the tall buildings lining the water front and the big vessels lying at the docks and anchored down the bay. Look on page 204 and name some of the things that these vessels have brought to our country. What will they carry away to other lands?

On page 205 there is a picture of something which we can see on an island in New York harbor. What is it?

A little farther south we fly over a river and see below us the city of Philadelphia. We notice the shipyards where some of our largest ships have been built and the buildings of the great plant where locomotives are made. In many countries of the world we can ride behind engines built in this great city.

Flying still farther south, we see a large bay where the ocean waters go far back into the land. Look down and see the small boats on the bay. The men in them are gathering oysters. More

oysters come from Chesapeake Bay than from any other waters. If we visited the city of Baltimore



NEW YORK HARBOR AND WATER FRONT © Ewing Galloway

Notice the very tall buildings near the water front of New York. Should you like to ride in the elevator to the top of one of them and enjoy the beautiful view? See the vessels at the dock. What do you think they may have brought us from foreign lands?

near the head of the bay or other places on its shores, we should find that many people earn their living by gathering the oysters from their

beds, removing them from their shells, and packing them for market, or by canning them. Perhaps the oysters which you had in your oyster stew came from Chesapeake Bay.

There are also large vessels out on the bay and at the docks in Baltimore. This is one of the important cities along our Atlantic coast, and it carries on a large trade with other lands.

At Charleston and Savannah, cities farther south, we see ships being loaded with bales of cotton fiber. These have come from our cotton fields. The vessels will take them to the mills in England and other countries of Europe. Do you suppose that the people who tend the noisy looms which weave the cotton cloth ever think of the country from which the cotton fiber comes and of the people who raise it?

Those vessels that are just steaming out of Savannah harbor are filled with turpentine. It comes from the pine trees in our Southern forests. Do you know what turpentine is used for? See if you can find out.

Now we are circling round in the air over the oldest town in the United States. It is in the state of Florida, and its name is St. Augustine. It was

near here that one of the early explorers hoped to find a wonderful fountain of youth. Have you ever read stories of Ponce de Leon and of his search for a magic fountain whose waters would make him young again? Do you think that he found such a fountain?

St. Augustine does not look very old to us. We can see many new buildings and some fine big hotels. In the winter time these are usually crowded with people. We have flown far enough south to reach the part of our country where the weather is always warm. Thousands of people from the colder states farther north come to Florida in the winter to enjoy the warm air and live out of doors in the sunshine. What did you read about Florida on page 18?

Now we are over the very southern point of our country, at the tip end of Florida. See the train running over the long chain of coral islands which stretch for miles out into the blue water. That town just below us, at the southern end of the island chain, is Key West.

See those brown piles heaped up on the wharves. What do you suppose they are? They are sponges, and out there in the water are the boats of the

sponge-gatherers. The men use a hook fastened to a long pole to get the sponges from the rocks to which they cling. In some places where the



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A BOATLOAD OF SPONGES

Where did these sponges come from? Name all the things you can think of for which they will be used

water is rougher and deeper the men have to dive for the sponges. What do we use sponges for?

Those ships at the docks of Key West are filled with tobacco. If we could look through the roofs of the long buildings in the town, we should see large rooms where many men, women, and girls are making cigars and cigarettes.

Look off there to the south. Perhaps you can see across the blue water the dim shore of the



BALES OF COTTON ON THE WHARVES

Perhaps some day you may wear something made of some of this cotton. Where will it go and what will be done to it before then?

island of Cuba. Many ships bring tobacco from Cuba to the United States. Other vessels bring sugar. Cuba is famous for both sugar and tobacco.

Now we turn our airplane westward and fly over the Gulf of Mexico. We dip down close to the earth. How warm the air is! It is the winter season, but we notice that everything is green and that flowers are blooming.

We will make only one stop in the Gulf of Mexico. This is at the city of New Orleans, near the mouth of the great Mississippi River. Just look at the barrels of sugar and the thousands of bales of cotton on the wharves, in the sheds, and on the vessels at the docks! Can you imagine the big mills in our country and Europe where thousands of workers tend the machines which spin and weave the cotton fiber into thread and cloth?

Flying over Galveston farther west, we see as much cotton as we did at New Orleans. How many, many cotton plantations there must be in our Southern states to supply all this fiber!

FLYING OVER OUR SOUTHERN BORDER TO THE PACIFIC SHORES

To get to the Pacific Ocean we will fly over the southern border of the United States where it touches the country of Mexico. If we were in a ship instead of an airplane, we should go farther south and sail through the Panama Canal. This great canal connects the Atlantic and Pacific oceans.

Along the shores of the Gulf of Mexico we see below us the derricks over the petroleum wells, and the great tanks in which the oil is stored. Underground there are large pipes through which the petroleum is flowing to the seaports. Here are the refineries, where the petroleum is distilled, and gasoline, kerosene, and other products obtained from it. Some of the oil is taken many miles to large cities farther inland, where there are other refineries. The products are used in these cities or sent in cars and trucks to smaller places.

Now we are low enough to see, both in our own country and in Mexico, great plains where many cattle are feeding in the pastures. Do you suppose that one of the men who cares for the cattle

on the Mexican side is Luis's father? You remember that he works on a ranch (see page 126).



WHERE WE GET OUR PETROLEUM

Below each derrick which you see in the picture is a deep well from which petroleum comes. What is made from this oil?

Farther west we see below us high mountains and high brown plateaus. There are mining towns here on the plateaus. Once in a while we catch sight of a dark spot on the mountain side. It is an opening into a mine. We know that in

many places here men are working deep in the earth, mining copper, silver, and other minerals.



CATTLE ON A TEXAS RANCH

See the cattle feeding on this big ranch. The ranch lies on the great plains near the southern border of our country. Over on the Mexican side there are cattle ranches very much like this

Now we have come to the Pacific Ocean. Flying northward, we see a large city just below us. Its name is Los Angeles, and it is the largest city on our Pacific coast. It is in the state of California. We should like to stop here for a while, for we



AN ARIZONA COPPER MINE

© Ewing Galloway

Arizona is one of the states on our southern border. It has valuable minerals stored below the surface of the ground. The long buildings at the right are storage bins for the copper ore. The building lower down is the shaft house over the entrance to the mine. Can you imagine the men at work in the long tunnels far beneath this building?

should have such a good time. Orange and lemon groves lie all around. How beautiful they are! The air is sweet with the smell of orange blossoms.

Did you ever see such big bunches of grapes as there are on the vines in that vineyard? Look



AN ORANGE GROVE IN CALIFORNIA

Imagine all the trees in this great orchard loaded with yellow fruit like the tree on page 19. What is being done to the fruit trees on page 72?

over in that field. Hundreds of trays, covering acres of ground, are filled with grapes changing in the hot sun and dry air into sweet brown raisins. We see also many trays of prunes and

apricots. More fruit is raised in California than in any other state in our country.

Does your mother buy any canned fruits which have come from the state of California? Look at some of the cans and see.

In the Pacific Ocean there is a current of warm water like the one which warms Erik's home in Norway. It is called the Japan Current because it flows near the coast of Japan. Then it crosses the Pacific to our shores. The winds blow the warm air from over this current to the land. So there are no cold winters in this part of California. This is the reason that oranges and lemons and other fruits grow so well here. Thousands of people from colder parts of the United States like to escape Jack Frost, so they come to southern California to spend the winter months.

In the story on page 97 you read about petroleum. What is it used for? How do we get it? There is a great deal of petroleum here in California. Some of the wells are sunk near the shore, and others go down through the ocean itself and its bed to the oil beneath. Ships and trains from San Francisco carry petroleum and the products made from it to other lands and to other parts of

our own country. Name the different things which you use that are made from petroleum.

Now we are flying over the Golden Gate. This is the entrance to the beautiful harbor of San Francisco. This big city carries on more trade than any other city on the Pacific coast. Look down and see the great shipyards. If we were nearer, we could see the men working on the vessels which are being built there. There are lumberyards near the water, and some of the ships at the docks are taking on loads of lumber. Others are being loaded with grain and canned fruits. See the bales of cotton. They have come from the Southern states and are going to the mills in Japanese cities on the other side of the great ocean.

Notice the vessels that are being unloaded. Those bundles and boxes and bags are filled with silk and tea and rice from Japan and China. Those vessels flying the flags of South American countries have brought coffee and cocoa. Those which have come from the Hawaiian Islands are filled with sugar and cans of pineapples. Our Filipino neighbors farther across the great ocean have sent rice, Manila hemp for making rope, coconut oil, and sugar. The people in southern Asia have sent

coarse burlap for making bags. The burlap was made from the fiber of the jute plant.

Leaving this busy city, we fly northward over high mountains and green valleys. Some of the slopes are covered with forests. There are trees here which are the largest in the world. Many men work in the woods felling trees and loading them on cars or floating them down the rivers to the sawmills. Near Seattle and other cities we see sawmills, and great rafts of lumber in the harbors.

Those long buildings near the water are salmon canneries. There are many of them along the Pacific shores of the United States, Canada, and Alaska, for this is where most of our canned salmon comes from. Shouldn't you like to be here in early June and watch the fishermen putting out the nets, starting the fish wheels, and fixing the traps for the big catch of salmon? What did you read about salmon in the story on page 78? •

FLYING ALONG OUR NORTHERN BORDER

Now we have come to the northern boundary of the United States. We will fly back to our starting place along the border between our country and Canada. On either side of us, this borderland is very beautiful. There are many miles of high mountains, dark forests, green valleys, blue lakes, and rivers of ice called glaciers. Beyond the mountains we see brown pasture lands where thousands of cattle and sheep are feeding. We catch glimpses of the ranch houses and other buildings and the cowboys on their horses.

Farther east we fly over fields of wheat and oats and barley and rye and flax. At every railroad station there are big elevators to hold the grain, and long trains filled with it are speeding over the plains.

What is that blue water beneath us? It cannot be one of the oceans which border the United States, for we are hundreds of miles from either one. It is one of the Great Lakes which lie between our country and Canada. There are five of these lakes, and they are among the largest in the world. There are many vessels on them.

Some are carrying grain and flour. Others are loaded with meat; and still others, with iron.

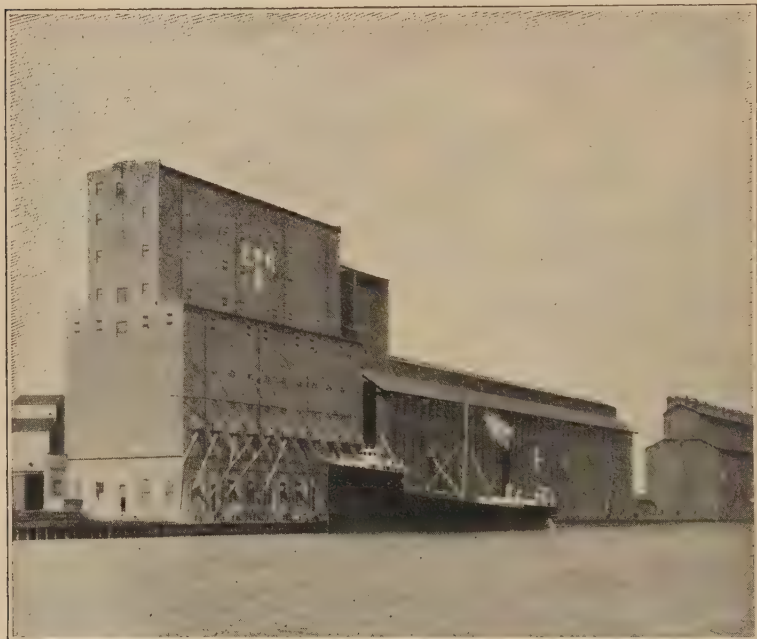


A GLACIER IN THE CANADIAN ROCKIES

We see some wonderful sights as we fly over the mountains on our northern border. The picture shows you one of them. It is a great glacier moving very, very slowly down through the high valley between the mountains. The ice is hundreds of feet thick

When we take our long journey across the United States we shall see where these things come from.

As we reach the Atlantic coast our trip in the air is ended. We have flown entirely around our great country and have seen many interesting sights. Which one did you like the best of all?

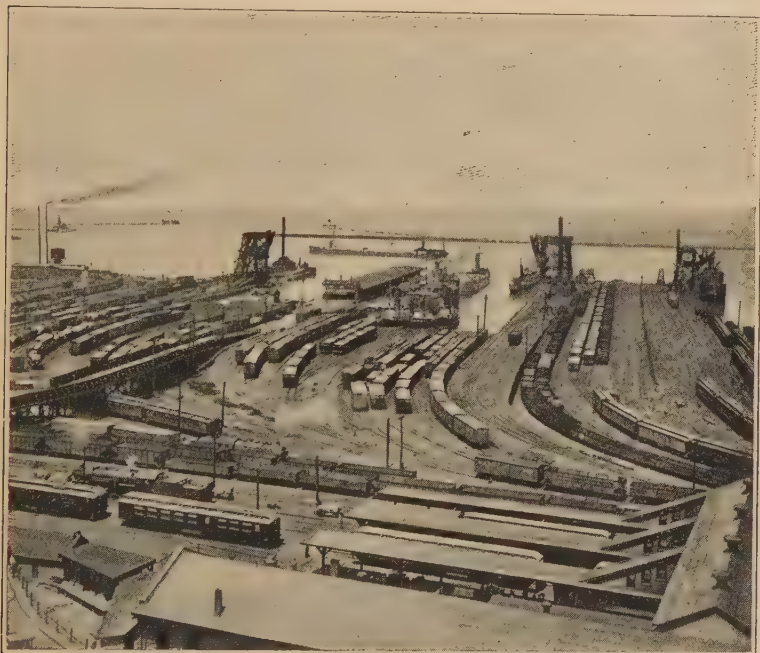


ELEVATORS WHERE GRAIN IS STORED

These great buildings are filled with wheat. See the long shutes through which it is pouring down into the vessel which is being loaded

Take turns being teacher and describe some place which we have seen on our airplane trip. Be careful not to mention its name, and let the class

guess what place you are describing. The one who guesses right may take his turn as teacher and describe another place. You will like this game.



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FREIGHT YARDS AND WATER FRONT AT CLEVELAND

Cleveland is a big city on one of the Great Lakes. Many things are brought here by train to be carried away by vessels on the lakes. The vessels bring other things which will be loaded on freight cars and sent to many places. What are some of these things (see page 237)?

If the teacher writes on the blackboard a list of all the places which we have visited, can you tell all that we saw in each place?

THROUGH OUR GREAT CENTRAL PLAINS

Now we will take a journey on land. We are going to travel through the central part of the United States. Do you live in this part of our country or is your home nearer the coast? Throughout this long journey we shall not see a high hill or a mountain. We shall travel the whole time over a great plain. We shall find many busy people and visit many large cities.

If we wished, we could go nearly across the United States from south to north by sailing up the great Mississippi River. It winds through the lowest part of the plain and has so many twists and turns that it is called the crookedest river in the world. Have you ever seen a very crooked brook winding through a meadow? Why does it wind so much and flow so slowly? Would a brook that flowed down a steep hill wind about?

The Mississippi River has great branches that rise in the mountains far away to the east and the west. Draw on the blackboard a very crooked river, with branches flowing into it on either side.

Instead of sailing up the Mississippi River we will journey by land. Then we can wander far to

the east and west and see all parts of these great plains and what the people who live here are doing.

We will start on our trip at the Gulf of Mexico and go northward through the country. One of



PLOWING IN THE CENTRAL PLAINS

This man is plowing his big field, so that he may plant his corn. It looks like a long trip across the field. In the summer his corn will be as tall as that shown in the picture on page 16

the first things we notice near the gulf are the petroleum wells. How many valuable things there are stored in the ground! Petroleum is one of the most useful of these. To get it, men have drilled

wells not only near the Gulf of Mexico but in other parts of these plains. What did you read about petroleum on pages 228 and 233?

Near the mouth of the Mississippi River is the city of New Orleans. You remember that we flew over it in our airplane. What two things did we see there (see page 227)?

Not far from New Orleans we begin to see great fields of sugar cane. Some of the sugar which was on the wharves at New Orleans came from the juice of cane which grew in these fields. Some was brought from other lands. Do you remember the story which we read about sugar? What is the name of the island where the people raise a great deal of cane and send much sugar to the United States (see page 226)?

Now we are in the midst of cotton plantations. We travel for miles among the cotton fields, and we see many boats on the Mississippi River taking cotton down to New Orleans. We go to the east and the west, and still on every farm we see cotton growing and people picking the fluffy white fiber.

Read again the story of cotton beginning on page 52, and tell us about it.

A little farther north we see fields of something

that looks very much like sugar cane. Yes, you have guessed what it is,—corn. The cornfields in these plains are the largest in the world. You remember that the United States raises much



FEEDING HIS PRIZE HOG

more corn than any other country. It is grown in nearly every state, but the most of it comes from the Central Plains. What is done with all the millions of bushels which grow here (see pages 15-17)?

See those little pigs out in the field. There are

dozens of them. There are many fat hogs too. Farmers in all parts of the country keep hogs, but there are more here in the corn belt than anywhere else. Why is this so? Should you like to belong to a hog club and win a prize for the very best hog raised by any boy or girl in your state?

The plants over in that field have leaves two and three feet long. They are so big that they hide the ground. That is a tobacco field. Close by are the buildings where the men hang the long leaves to dry. In places the fields of tobacco are covered with white canvas. They look like great flat-topped tents, bigger than any circus tents which you ever saw. The canvas protects the tobacco from the hot sun, from heavy storms of rain and hail, and from insects.

All through these great plains we see many cattle feeding in the pastures. There are many dairy farms in this part of our country. What did you read about dairy farms in the story on page 31? What are some of the interesting things which you might see on a dairy farm?

✓ The boys and girls who live in the southern part of our country have no cold winters with frozen ponds for skating and big white snowdrifts for

snowballing and coasting. Many of them have never seen snow. Flowers bloom and crops grow there all through the year. As we travel north



HARVESTING BARLEY ON THE PLAINS

Farmers on the plains raise many kinds of grains. You read in the story on page 9 about our great wheat farms and in the next story about our corn crop. The farmer in this picture is harvesting his barley. The machine cuts it and ties it up in bundles, such as you see at the left

we find the weather growing cooler. Now we are coming to the part of the United States where during part of the year the north wind brings cold weather, where Jack Frost stays all winter, and

where the water vapor in the air falls in snowflakes and covers the earth with a thick blanket.

Traveling in the summer time through the plains in the central part of our country, we see many large fields of waving grain. We know what this grain is. It is wheat. We learned of these great fields when we read about the little wheat seeds in the story on page 9. Were it not for the wheat fields on the plains of the United States and in Canada, you could not have your nice white bread for supper.

We see other grains growing, too,—flax and oats and barley and rye. Can you bring any of these seeds to school for your collection?

See those long rows of sugar beets. The men and boys are pulling them and cutting off the tops just as Stefan and his people were doing in Poland (see page 148). There are factories here where the juice is made into sugar. Do you remember reading on page 47 how this is done?

In our travels through the plains we find that there are rich treasures stored under the ground as well as on the surface. You have already read about petroleum and petroleum wells. Some of our richest coal beds are in this part of

the country, and we pass many places where bituminous coal is mined. What other kind of coal is mined in the United States (see page 92)? What is the difference between the two kinds?

Near the northern boundary of our country we find some mines very different from those which we have seen in other places. They are great open pits in the earth. You know what they are, for you read about them on page 101. Engines are pushing and pulling long trains of freight cars into and out of the pits. Steam shovels puff and rattle as they scoop up great mouthfuls of the reddish soil and dump it into the cars. Five hundred men working hard all day could not do as much as one of these big shovels.

These open pits are the richest iron mines in the world. Most mines are deep in the earth. I will tell you how the iron here happened to lie so near the surface.

This part of our country was once covered with high mountains. The region is so very old that Nature's workers, the frosts and the rains, the brooks and the rivers, have worn the mountains down into very low hills. The wearing away of the mountains has brought the iron near the surface.

You remember the Great Lakes which lie between our country and Canada. They are near the iron region. Long freight trains carry the iron ore to the lakes and out over the water on high docks half a mile long. Vessels lie beside these docks, and the ore falls from the cars into the ships. These ships carry it to the cities on the shores of the lakes. Here the iron is manufactured into many different things or sent by train to other cities.

There are deep forests here in the northern part of the United States where many lumbermen work. In parts of the Central Plains very few trees grow. The people who live in the treeless regions are glad to buy lumber for their houses and barns from the cities near the forests. So there are many saw-mills here, and lumberyards, and factories for making things from wood—street cars, furniture, tools, and other things. See if you can find out where the desks and chairs in your schoolroom came from.

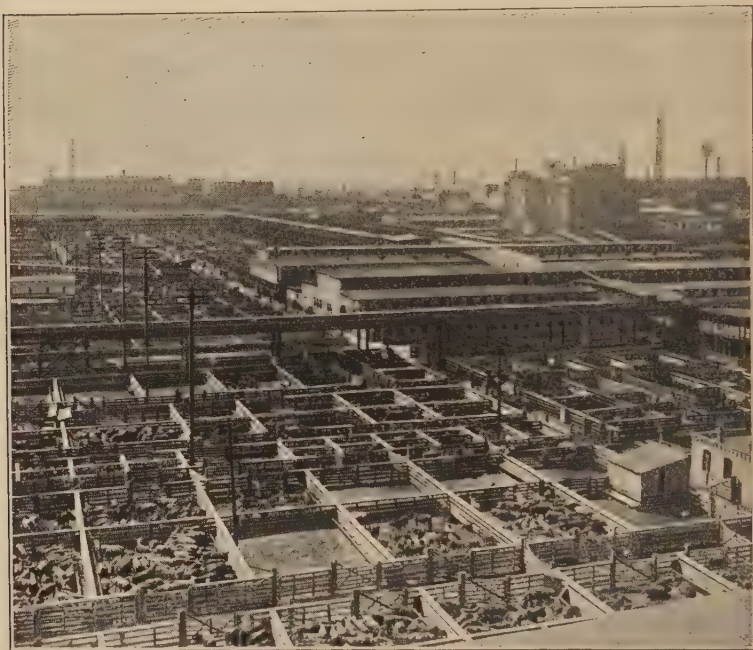
There are so many people at work on our plains—on farms, in mines, and in forests—that large cities have grown up here. One of these is St. Louis. If I tell you something about St. Louis, and then you think hard, you can tell some of the

things which the people do there. Corn and wheat farms and those where cattle and sheep and hogs are raised lie all around. Rivers connect the city with the forests to the north and east. Waterways and railroads lead to coal and iron regions. The tobacco fields of Kentucky are not far away. Now what are some of the things which you should expect to see the people doing in St. Louis?

Another big city in the Central Plains is Chicago. It is built on the shore of one of the Great Lakes and has grown to be the second largest city in the United States. There are so many interesting sights to see in Chicago that we hardly know which one we enjoy the most. We have already read of the great animal city—the stockyards—where thousands of cattle, sheep, and hogs live for a day or longer (see page 28). We should like to count the long trainloads of meat and lumber which are constantly leaving the city, and the trainloads of cattle and wheat and flour which are coming in and going out of the stations.

We should like to visit the factories where are made the great harvesters and reapers and other machines which we saw out in the grainfields. A drive on the broad avenues on the lake front, with

the sparkling water on one side and beautiful houses and gardens on the other, almost makes us think that we are in fairyland. In other parts of



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A VIEW OF THE STOCKYARDS IN CHICAGO

Every day many trainloads of cattle, sheep, and hogs come from ranches and farms to the great city. The animals are put into the pens in the stockyards. Some are sold and shipped away and some go to the slaughterhouses to be killed

the city the crowded streets, the tall skyscrapers, the many factories, and the busy railroad stations all show us what a busy place Chicago is, and what

an important part of our country the Central Plains must be. Many cities are needed here to manufacture and to send away the products of



LAKE SHORE DRIVE, CHICAGO

You may follow this beautiful avenue all the way from the crowded business part of Chicago to one of the most beautiful parks in the city

the plains and to supply the people who live on them with many other things which they need.

There is another place on the Great Lakes which you will enjoy seeing. This is Detroit, the automobile city. There are more automobiles made in Detroit than in any other city in the world.

Very many of the people who live in the city of Detroit work in the great factories where hundreds of cars are made every day. What automobiles do you know which are made in Detroit?



A VIEW OF DETROIT

The picture shows you some of the big hotels in Detroit. This city has grown very fast and is now one of the largest in the country.

What have you seen which was made in Detroit?

You remember the story you read on page 9 of the little wheat seeds and how they were changed from grains of wheat to flour? This may have been done in Minneapolis, for more flour is

made here than in any other city in the world. We should not mind getting covered with fine white dust if we could go through one of the great mills here and learn just how the flour is made. We should like to see how the grains of wheat are lifted to the top of the mills. Then we should like to watch the cleaning, and the fanning away of the dirt and the straw. We should like to see the great rollers which grind the seeds, and the sifters which separate the yellow bran from the white part. We should like to watch the fine white flour come out of the chutes and fill bag after bag until we are tired of counting them. In some of the large mills in Minneapolis thousands of bags of flour are made every day.

ON OUR HIGH PLATEAUS AND MOUNTAINS

We have taken a long trip around the shores of the United States, and we have journeyed through the plains in the central part of the country. Now let us take a trip on the highlands. We shall find fewer people here and fewer cities and towns than on the plains, but there will be many other interesting things to see.

Our two great highlands lie on either side of the wide plains. We must choose between them, for we have not time to visit both of them. The eastern highland is much lower than the one in the west. Its name is the Appalachian Highland. It is here that many of our coal and iron mines are located. There are oil wells here and places where men get natural gas for heating and lighting. The streams flowing down the slopes of the mountains to the plains on either side have much power in their swift waters. What do you suppose that this power is used for (see page 74)?

Let us choose the Western Highland for our trip. Its mountain peaks are much higher and sharper than the peaks in the Appalachian Highland. Notice how much sharper the peaks are in

the picture on page 256 than they are in the picture on this page. This is because the western mountains are younger, and Nature has not yet had time to wear them down and smooth them off.



A MOUNTAIN RANGE IN THE APPALACHIAN HIGHLAND

Notice how rounded the tops of the mountains are. They are very old and for centuries the heat and the cold, the frosts, the rains, and the ice and snow have been wearing them down and rounding them off

The plateau on which the mountains stand is a mile higher than the ocean. Some of the mountains on either side rise into the air as far again. The Rocky Mountains are on the eastern edge of

the plateau, and the Sierra Nevada and the Cascade Mountains on its western edge. Have you



A MOUNTAIN RANGE IN THE WESTERN HIGHLAND

How are these mountains different from those on page 255? These are younger than the mountains in the East, and Nature has not yet had time to wear them down and smooth them off. (Courtesy of Publicity Branch, Department of Immigration and Colonization, Ottawa, Canada)

ever heard of these mountains? Perhaps you may know someone who has traveled through them.

In both of these great mountain systems we see many high peaks. It is so cold on their tops that you could find snow there on the Fourth of July.

Some of their slopes are bare and brown. On others there are beautiful waterfalls, deep forests, and glaciers of blue ice. There are lovely lakes in which many fish live, and swift rivers flowing to the sea. What will some of the waterfalls in the rivers be used for some day?

We see many mining towns on the plateau and the mountain slopes, for there are rich beds of minerals here. If we should go down into the mines, we should find the miners getting out copper, gold, and silver. Are any of these mined in the highland in the east (see page 254)?

In many of the towns there are no trees shading the dusty streets, and no green lawns and pretty flower beds around the houses. Water is too precious here to be used for lawns and gardens. In some places it has to be brought in pipes for many miles.

The high Sierra Nevada, west of the plateau, shuts out the moisture in the air, and little rain falls here. In many places grass comes up green in the spring, but in the hot, dry air of summer it turns brown. Thousands of cattle feed on this brown grass. We pass many ranches too, where there are large flocks of sheep.

As we ride over parts of the great plateau we see no towns, no farms, and no ranches. In other parts we see fine farms and splendid crops of fruit



A MINING CAMP IN NEVADA

Nevada has many valuable minerals. There are many mining camps like the one in this picture. Notice the lack of trees and grass in this dry region. See the little shacks of the miners, the larger buildings connected with the mine, and the great piles of rock waste

and vegetables. How is it possible that people can have farms in such a dry place? Plants will not grow without water, yet here they are growing where there is very little rainfall.

This is one of the places where men are trying to help Nature. Where she has given them too little water they have brought it from miles away. They have built dams across rivers and made great ponds, called reservoirs, to hold the water. They have built canals and ditches to carry it to their farms. You read about all this on pages 71 and 72. What do you call this way of watering?

Off there in the distance we can see blue water glistening in the sunshine. It is not the ocean, for we are hundreds of miles from it. This water is the Great Salt Lake. Should you like to go bathing in the lake? There is so much salt in the water that it is heavier than your body, and you can easily float on it. Be careful not to swallow any of the water. You will not like it, for it is much more salty than ocean water.

Since we started on our travels in the United States we have journeyed many miles. We have visited the wide plains in the central part of our country and have seen the great cities there and the fine farms. What are some of the things that the farmers raise?

We have visited the Appalachian Mountains in the east and learned of the beds of coal and iron

there. We have climbed the plateaus and looked at the high peaks of our Western mountains. We have watched the cattle and sheep feeding in the high pastures. We have seen the miners getting out copper, gold, silver, and lead. We have found out that the raindrops cannot get over the mountains to the high plateaus and that the people there have brought the water from many miles away to make their crops grow.

Now we will say good-by to these places where people work, and go for a while to some of the beautiful places where they play and rest.

GENERAL REVIEW

See if you can fill the blanks in these sentences.

The Central Plains lie in the ---- part of our country. The Appalachian Highland lies ---- of the plains. The ---- Mountains and the ---- and ---- Mountains lie west of them. Between these Western mountains there is a high, wide ----. There is little water on this plateau, and men have to ---- their farms.

In the Appalachian Mountains we mine ---- and ----. In the Western Highland there are mines of ----, ----, and ----. In the western part of the United States there are many ---- and ---- ranches. There are places in different parts of our country where men drill wells to get ----.

In the southern part of our country there are large plantations of ---- and ----. Farther north we come to our ---- belt. Many ---- live here and are fed on the corn. Farther north there are great fields of ----.

Some of the largest cities in our Central Plain are ----, ----, and ----. The largest city in the world is ----. It is on the ---- coast of the United States. Other cities on the eastern coast of our country are ----, ----, ----, and ----. Near the southern tip of Florida is ----. Near the mouth of the Mississippi River is the city of ----. On our Pacific coast are ---- and ----. The oldest city in the United States is ----.

SOME WONDERS OF THE WEST

I know a place in the United States which you would rather see than mines or ranches or farms or cities. It is one of the greatest wonderlands in the world. It is called Yellowstone Park. It is not a small green park like those in cities and towns, but covers many miles.

There are places in Yellowstone Park where steam comes out of cracks in the earth. There are fountains of steaming, hissing, boiling water. There are ponds and pools of the most beautiful blue in which the water is hot instead of cold. There are mounds and terraces of beautifully colored rock—white, pink, red, and yellow. These are made of the mineral matter which was held in the hot water as it came out of the ground. There are sparkling lakes of cold water where many fish live. There are wonderful falls which leap down over high cliffs, and rushing rivers which flow between banks of lovely colors.

The fountains of boiling water are called geysers. In the park there are hundreds of them of all sizes and ages. Geysers are really water volcanoes. Far, far down in the earth it is very hot; so hot,



OLD FAITHFUL GEYSER

About once an hour, day and night, winter and summer, Old Faithful sends a mass of steaming, hissing, boiling water one hundred and eighty feet into the air. How high is that compared with your schoolhouse?

indeed, that the water there has changed to steam. When water turns to steam it must have more room, so it rushes up with great force through cracks in

the earth. As it gets nearer the surface it becomes a little cooler and changes back to water again.



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FEEDING A BEAR IN YELLOWSTONE PARK

The bears in the park are so tame that they come up to the hotels to be fed. Sometimes they come out into the road, and people driving through

the park feed them. The bears are very fond of candy and sweets. Should you like to give a big brown bear some of your candy? Besides the bears there are deer, moose, antelopes, and herds of buffalo in the park. Have you ever seen any of these animals?

Yellowstone Park is such a wonderful place that our government owns it. Many roads and hotels have been built, and the park is being kept as a wonderland for all the people to enjoy.

I hope that some day you will go to Yellowstone Park. What shall you like best to see there?

Now we will go to another wonderful place. This is near the Colorado River, in the southwestern part of our country. On a map the Colorado River looks like any other river, but no river in the whole world has a valley like it.

Do you know what a canyon is? It is a deep valley or gorge with steep cliff sides. Canyons are sometimes hundreds of feet deep. The southwestern part of the United States is sometimes called Canyon Land because many of the rivers flow in deep gorges or canyons.

Have you ever seen a tiny brook cutting its



THE GRAND CANYON OF THE COLORADO RIVER

What a wonderful work this river has done in cutting such a tremendous gash in the earth! After a heavy rain see if you can find a brook cutting its canyon in the gutter

little canyon? It works in just the same way that a big river does. See if you can find one some rainy day. What becomes of the soil which it removes?

Of all the canyons anywhere on the earth, the one which the Colorado River has made is the most wonderful. As you stand on the edge of the cliff, the river is a mile below you. It looks like a silvery brook instead of a big, rushing river. An eagle flying over it looks as small as a robin. The opposite bank of the river is ten miles away. Think of a river that cuts a gash in the earth a mile deep and ten miles wide!

Within the Colorado Canyon there are smaller gorges. The rock left standing has been carved by the water into many shapes like towers and statues and monuments. These are of different colors,—pink, gray, red, and yellow. Some day perhaps you may see them.

There are many other wonderful sights in the western part of our country. There are other great gorges, high waterfalls, bridges made of rock, trees turned to stone, and homes of ancient people who lived hundreds of years ago in caves in the cliffs. You will study about all these and many other interesting things later in your geography lessons.

SOME INTERESTING SIGHTS IN THE EAST

In the eastern part of our country there are as interesting sights as there are in the West. One of these is Mammoth Cave.

Have you ever played in a cave in the rocks? Mammoth Cave is bigger than any you ever saw. "Mammoth" means "big." It is not a single cave, but many of them connected by dark passages. You could wander for many miles without coming to the end of these caves.

There are several rivers in Mammoth Cave. They have flowed underground for a long way. People who visit the cave usually take a boat ride on the black waters of Echo River. They like to speak to the echo and listen for its reply. Have you ever heard an echo?

Men have found blind fish in the rivers of Mammoth Cave. The fish have lived in the dark so long that they have lost the use of their eyes.

How do you suppose that this great cave was made? I will tell you. In one of the stories in the first part of this book you read of the power of running water. It was the water in the underground rivers that wore away the rock and

made the cave. Have you ever seen water wearing away a bank or making a hole in the ground or carrying off the dirt and stones in the street?



© Keystone View Co., Inc.

MAMMOTH CAVE

Here we are on the dark river which flows through Mammoth Cave. The water in this river helped to wear away the rock and make the cave

The rock in the part of Kentucky where Mammoth Cave is located is made of lime. Limestone is worn away by water more easily than any other kind of rock. That is why the cave is so large.

The water has worn the rock in the cave into many curious shapes. There are great rooms like chapels and temples and grottoes. In one room flowers carved out of the stone cover tall columns. In another room the rock ceiling glitters as if it were covered with stars. I hope that some day you may go to Kentucky and see these wonderful things.

In this same part of our country there is a bridge made by the water. It has worn out the part of the rock underneath and left the rock bridge. Should you like to walk across this Natural Bridge in Virginia? There are much larger natural bridges in the West. The largest in the world is in Utah. It is arched like a rainbow and is called the Rainbow Natural Bridge.

In New Hampshire, Nature's workers—the rains, the frosts, and the winds—have done another wonderful thing. Have you ever heard of the Old Man of the Mountain? Look at his face in the picture. It has taken many, many years to carve this face on the mountainside.

Nature is always patient. She is never in a hurry, but she is never idle. In the long, long years she does wonderful things. There is another place



THE OLD MAN OF THE MOUNTAIN

Think of the long years that it has taken Nature to carve this likeness from the rock. Which of her helpers have aided her in this work?

in the eastern United States where she has been working for many long centuries and is still busy. This is at Niagara Falls. Look at the picture and try to imagine how beautiful they are.



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A VIEW OF NIAGARA FALLS

Some day you may visit Niagara and see the rushing river leap over the high cliff. There is great power in the swift waters. Men are using this power to turn great wheels connected with machines which generate electricity. For what is this electricity used?

At Niagara Falls the river leaps over a cliff one hundred and sixty-four feet high. Can you find out how high this is compared with your schoolhouse?

It is a beautiful sight to see the river come rushing and foaming and dashing over the cliff. It

throws clouds of spray high in the air. When the sun shines through the spray, all the colors of the rainbow show in it.

There is great power in the water of the Niagara River where it leaps over the cliff. Men are harnessing it and making it do other work besides wearing away the rock. Read again the story on pages 73 and 74, and tell the class what this work is.

The electricity made by the power of the water in Niagara Falls is carried on wires to many cities and towns. It lights the streets and houses in these places, runs the street cars, and moves the machines in many mills and factories.

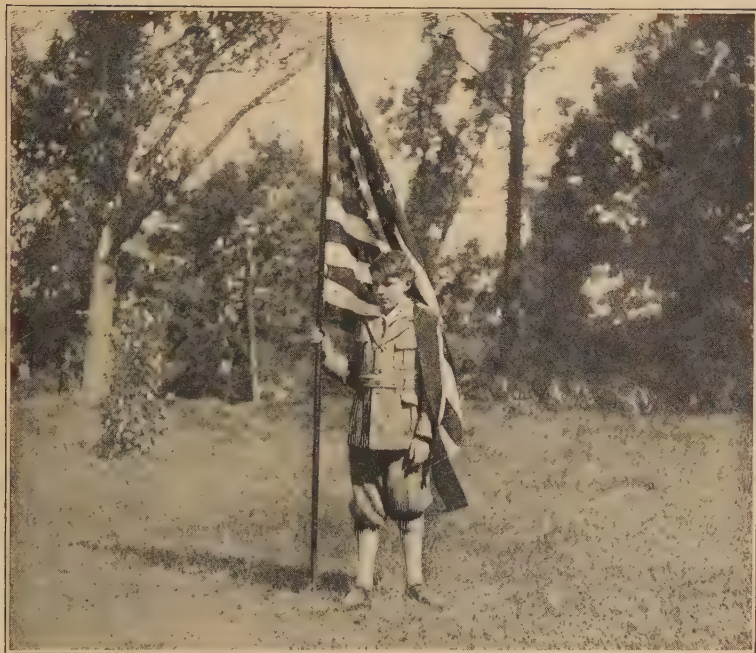
OUR OWN UNITED STATES

What a good time we have had traveling over the plains and mountains and seeing some of the wonders of our country! And what a splendid land it is! Some of our world neighbors live on deserts, some in very cold countries, and some in lands where it is always hot and damp. Others have their homes in countries which are often at war, or in places where there is little freedom to make the best of themselves. Still others live on wide plains of fertile soil and in lands made beautiful by mountains and valleys.

We think that our country is the best place on earth. It is big; it stretches from ocean to ocean and from the warm regions of the south to the cool, bracing lands on the border of Canada in the north.

Our country is rich. It has great plains of fertile soil where splendid crops can be produced, rich beds of many kinds of minerals, broad pasture lands where millions of cattle and sheep can feed, and deep forests of valuable wood. Its waters abound in valuable fish.

In the United States there are great lakes over



THE FLAG OF OUR COUNTRY

And for your country, boy, and for that flag, never dream a dream but of serving her as she bids you. No matter what happens to you, never let a night pass but you pray God to bless that flag. Remember, boy, that behind officers, and government, and people even, there is the Country Herself, your Country, and that you belong to Her as you belong to your own mother. Stand by Her, boy, as you would stand by your mother.—EDWARD EVERETT HALE

which vessels carry valuable products; there are many, many rivers which are good highways for ships, which supply the water needed for irrigation in the drier parts of the country, and which

furnish power to help in many industries. Is there a river near your home? For what are its waters used?

Our country is beautiful. Which do you like best, its green forests, its winding rivers, its blue lakes, its snow-capped mountains and green hills, its dashing waterfalls, its great canyons, or some other feature which we have not mentioned?

We are glad that our country is so big, so rich, and so beautiful. We are glad that we live in such a splendid land as the United States. We want it always to be the best land, and its people the happiest on earth.

These things will be true if each one does his part in making them so. If everybody all over our country tries to make his home, his school, and his town the very best that he can, that will make the whole country fine.

What are some of the things that you can do to make your school and your part of the town or city better than it has ever been before? Have you ever done any of these things?

INDEX AND PRONOUNCING VOCABULARY

Key: äle, ät, äsk, ärm, final; éve, ěnd, hēr; ĩce, ĩll; ōld, ōn, fōr, anchōr; ūse, ūp, fūr, circūs; gōōse, gōōd; ' as in eaten (ē't'n).

- Abaca (ä-bä-kä'), 195
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